THE RAILWAY GAZETTE
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DIESEL RAILWAY TRACTION

A Supplement illustrating and describing developments in Diesel Railway Traction is presented with every copy of this week's issue

DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders 1939, *No.* 1440

TO CALLERS AND TELEPHONERS

Consequent on the war and the blackout regulations, as an emergency measure to assist our staff in getting home before it is fully dark, our office hours (without a lunch interval) until Saturday, February 24, *are:—*

Mondays to Fridays - 9 a.m. till 3.15 *p.m.*
Saturdays - - - 9 a.m. till 1 *p.m.*

First Wartime Railway Dividend

THE Great Western Railway dividend, announced on Wednesday, is regarded in some quarters as symbolising the first fruits of the recently-concluded financial agreement between the railways and the Government. However, it should not be overlooked that the figures suggest that, but for the intervention of the war, the stockholders might have fared better. The amount forthcoming on the company's ordinary stock is 3½ per cent. which is in accordance with general market expectations and indicates earnings rather above the guaranteed minimum. Dividends on the ordinary stock for the past nine years have been as follow:—

	1931	1932	1933	1934	1935	1936	1937	1938	1939
	%	%	%	%	%	%	%	%	%
Ord. Stock ..	3	3	3	3	3	3	4	½	3½

For the eight months to August—the pre-war period—there was an increase of approximately £1,180,000 in gross receipts from railway and ancillary businesses, as compared with the like period of 1938. Net revenue for the same period was higher by £870,000. For the whole year, including an estimated sum for the four months of control in accordance with the financial agreement with the Government, net revenue at £6,607,324 was greater by £1,563,571 than for 1938. The balance brought in from the previous year was £87,085 and the amount available for distribution on the ordinary stock was £1,704,640.

* * * *

Quick Agreement on Wages

Within forty-eight hours of the announcement by the Minister of Transport of the terms of the financial arrangements with the railways for the period of Government control, the Railway Executive Committee had solved another important problem. It had secured the agreement of the railway unions to a revision of wage rates which, while substantially in advance of those previously ruling, did not meet in full the claims which the men's leaders had put forward. Details of the arrangement, which involves the suspension of the cost-of-living sliding-scale plan previously in operation, are given on page 237. The estimated cost in a full year has been put at £6,000,000 and obviously would not have been practicable but for the inclusion in the agreement with the State of the provisions, the necessity for which had been foreseen and emphasised in THE RAILWAY GAZETTE, for varying rates and charges to meet fluctuations in costs arising from wartime conditions. The speed with which the current labour problem has been solved, made possible alike by the prompt action of the railways and the men's abstention from an endeavour to force their full claims, is encouraging.

* * * *

Dakar-Niger Railway

Most important of the railways in French West Africa is the Dakar-Niger line, 800 miles long, and its six branches and port lines, comprising a metre-gauge system with a total length of 1,060 miles. The first line was that from Dakar to St. Louis, built in 1883-85, but the construction of the Ch. de fer Kayes au Niger, beginning in the 'eighties of last century, did not end until 1923; it was in the hands of the military authorities. From 1923 the Dakar—St. Louis and Niger lines have been operated as one system under the name of Dakar-Niger. A recent issue of the *Revue Générale des Chemins de Fer* contains a lengthy description of the system, from which it appears that the operating ratio has fluctuated amazingly from 81 in 1935 to 65 in 1936, 57 in 1937, and 76 in 1938. The number of passengers carried in 1938 was 2,750,000 and the freight tonnage was 520,000. The expenses in that year were fr. 88,000,000 and the receipts fr. 115,000,000;

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renewal of equipment in 1938 accounted for fr. 5,850,000, which is considered quite insufficient. Rails of 48, 62, and 73 lb. are laid, and traffic was hauled in 1938 by 185 steam locomotives of which 10 were Mallets and 42 Mikados. Since that time seven Beyer-Garratt steam, 20 Mikado steam, and six diesel locomotives have been ordered. The rolling stock comprises 254 carriages and over 2,000 freight wagons. Extensive realignment works are being carried out on the up-country section between Kayes, on the Senegal river, and Bamako, on the Niger.

* * * *

Speed Progress in 1939

From the article on page 215 it is clear that the war has interrupted a forward movement in railway speed which in several countries had set up some new high records in 1939. For the first time in history, the aggregate mileage throughout the world of runs timed at over 60 m.p.h. from start to stop passed the six-figure mark, reaching a total of 114,099 miles. The significance of this fact is better appreciated by recalling that as recently as 1932, only seven years earlier, the world mileage so scheduled was only 6,529. In the year last-mentioned the Cheltenham Flyer of the G.W.R., when accelerated to the 71·4 m.p.h. schedule which it retained until the outbreak of war, was the fastest train of any description in the world; by 1939 it took the one-hundredth place in the list; and even with propulsion by steam alone it ranks no higher than sixteenth. It is, of course, the diesel engine which monopolises the majority of the fastest schedules, so much so that by 1939 ten timetable bookings of high-speed diesel units were in operation at start-to-stop speeds exceeding 80 m.p.h., and fifty at over 75 m.p.h., making together an aggregate distance of 4,762 miles timed at this speed. At 70 m.p.h. and over both steam and electricity added handsomely to the mileage, diesel, steam, and electric propulsion being responsible for 8,917, 2,832, and 1,507 miles respectively, or 13,256 miles in all. A final fact of interest is that, despite the competition of other prime movers, steam still held its own in 1939 as responsible for one-half the mile-a-minute mileage.

* * * *

The Fastest Train in France

An enterprising acceleration of a famous French train, effective from August 1 last, was cut short by the outbreak of war a month later; this was the northbound Sud Express, which in order to improve communications with Spain was booked for this short period at a higher overall speed than ever previously attempted in France, but hardly long enough to merit inclusion in the tables of "World Railway Speed in 1939," given in this issue. From Bordeaux the overall time for the 359·8 miles to the Austerlitz station at Paris was brought down to the unprecedented figure of 5 hr. 27 min., including four intermediate stops, and this notwithstanding the fact that the final 73·9 miles from Les Aubrais to Austerlitz were very easily booked in 80 min., in accordance with French custom, in order to allow ample margin for recovery of lost time if the train should be running late. The other point-to-point bookings were from Bordeaux to Angoulême, 83·5 miles, in 72 min. (69·6 m.p.h.); Angoulême to Poitiers, 70·1 miles in 60 min. (70·1 m.p.h.); Poitiers to St. Pierre-des-Corps, 62·7 miles in 54 min. (69·7 m.p.h.); and St. Pierre-des-Corps to Les Aubrais, 69·6 miles in 57 min. (73·2 m.p.h.). This required a running average of 70·6 m.p.h. for the whole of the 285·9 miles from Bordeaux to Les Aubrais. A correspondent who travelled with the train during the month in question noted the recovery of 24 min. of lost time, 8 min. on the fast point-to-point schedules south of Les Aubrais, and no fewer than 16 min. on the easy section between Les Aubrais and Austerlitz, the net running time for the 359·8 miles being thus just under 5 hr., and the overall average 72·2 m.p.h.

* * * *

Belfast & County Down Railway

Gross railway receipts in 1939 improved to £161,141, but expenditure also increased to £156,149, the shortage of 1938 being converted into a surplus on working of £4,991. Net receipts from hotels and refreshment rooms were lower at £2,786, compared with £3,338. The amount transferred in aid of net revenue under the Settlement of Claims Act was £2,098, against £10,217. The general financial position compared as follows:—

	1938	1939
	£	£
Gross receipts from businesses ..	171,972	182,498
Net receipts from businesses	*Dr.* 1,351	7,777
Compensation under Settlement of Claims Act	10,217	2,098
Miscellaneous receipts, net	5,675	5,700
Total net income	14,541	15,575

The whole of the net income was appropriated to interest, rentals, fixed charges, and dividends on guaranteed shares and 4½ per cent. "A" preference stock, there being no balance available for the payment of any dividend on the 5 per cent. or 4 per cent. preferences, or on the ordinary stock. Mileage open was the same, at 80 miles. Train miles were 713,545, and diesel-electric railcar mileage, 38,594. 2,934,356 passengers were carried for receipts £122,455, and 87,058 tons of goods for receipts £22,249.

* * * *

Railways in War

Canada would seem to have been the first country in the world to use the railway as an adjunct to military warfare, when troops were transported from Laprairie to St. Johns, Quebec, on the Champlain & St. Lawrence Railroad, during the Papineau Rebellion of 1837-38, according to the researches of Mr. John Loye, President of the Canadian Railroad Historical Association. A captain in the British Army who had been stationed in Lower Canada at the time, when in his 101st year, told Mr. Loye in 1919 that his company of carbineers, together with several detachments of regular and volunteer troops, some artillery pieces, and other military equipment, had been transported in this way in 1838 when an expeditionary force moved from Montreal to attack the insurgents at Odelltown, Quebec, three miles from the American border. He also said that the same railway was similarly employed in the previous year when Colonel Gore stormed St. Denis, Quebec. The first use of the railway as an arm of military operations between first class powers was in the Crimean War of 1854-56, when a railway was laid in the Crimea, and equipped with locomotives and rolling stock, to transport materials to the British and French besieging Sebastopol. The American Civil War saw the first use of the railway on a large scale in wartime. At that time the U.S.A. east of the Mississippi was well served with lines which came to play a prominent part in the hostilities. One of the paramount factors of the war was the attack and defence of these strategic lines, together with the capture of engines and rolling stock and their systematic destruction. This was particularly true of Sherman's march "from Atlanta to the sea."

* * * *

Sunday Trains

An interesting feature of wartime train services has been the standardisation of long-distance Sunday main-line services in the same times as those operating on weekdays. In many other countries the seven-day timetable has been

a general practice, the only difference made on Sundays being the withdrawal of a few expresses—such as some of the high-speed diesel trains in Germany—that are used chiefly for business purposes. In Great Britain hitherto the Sunday timetable has been an entirely separate entity, but on the introduction of the first war emergency services in September and October last it was seen that the weekday and Sunday main-line services were virtually identical. Now that winter services but little short of normal in their frequency have been restored by the L.M.S.R., the old disparity between the number of trains operating on Sundays and weekdays has been restored, but many of the Sunday express trains continue to run in weekday times. For example, from Euston there are departures on both Sundays and weekdays at 10 a.m. to Glasgow, 10.20 a.m. to Manchester, 1.10 p.m. to Blackpool, 2.40 p.m. to Liverpool, 4.50 p.m. to Heysham, 5.30 p.m. to Liverpool, and 6.15 p.m. to Preston, though in consequence of additional stops made on Sundays, the overall journey times of most of the Sunday trains are longer. On the L.N.E.R., the December 4 timetable re-issue widened the differences between weekday and Sunday trains.

* * * *

Continental Railways and the Cold

Resumption of the cold weather in Europe has intensified the transport difficulties of the countries bordering the Baltic, particularly Denmark, so much of which depends on sea passages. The train ferries that cross the Great Belt between Korsor and Nyborg, and the Sound between Copenhagen and Malmö, have been abandoned, and between Zealand and Funen and Jutland the Kalundborg-Aarhus route was the only principal means of communication, except for a temporary air service between Copenhagen and Odense. Goods traffic was conveyed by a temporary service between Korsor and Aarhus worked by two of the Great Belt diesel ferries, goods wagons being transferred from dock to quay at Aarhus by means of a 30-ton crane. The Danish-German train ferry between Gedser and Warnemünde has also been delayed by the Baltic ice. Many big towns on the Continent are suffering from coal shortage and have had drastic restrictions placed by the municipal authorities on central heating. Icebound rivers and canals, as well as the Baltic ice, have been paralysing water-borne transport. The freezing of ice in points, snowdrifts, and—in the south—floods have delayed or held up railway traffic, already exceptionally heavy.

* * * *

When Winter Goes

When this winter takes its unregretted departure, expedited by the juggling with clocks with which we defeat the blackout of our own making, it will leave us with some imperishable memories of our travel experiences. Our outstanding impression has been the widespread public demand for transport to any spot whither duty has called us ourselves, so that the platform from which we depart is packed with mutually hostile humanity competing for seats, while all others appear silent and deserted. We pass over our disturbing influence upon carriage heating systems and the speed of trains, to dwell upon the fact that our arrival by train in any place appears to be a signal for it to be overtaken by a hurricane, cloudburst, or impenetrable fog, wherein Nature contrasts the awful majesty of her wrath with the insignificant anger of warring nations, to a degree intensified according to the lateness of the hour and the difficulty of securing transport from the station. In fact, in the next peace we hope to derive a steady income by being bribed to stay away from their territories by the two railway companies which preside over the equable climates of our south and east coasts.

Some Uncertainties of Railway Control

THE financial arrangements between the Ministry of Transport and the four amalgamated railway companies and the London Passenger Transport Board, in connection with the Government control of railways, have been received generally as a reasonable but not unduly generous settlement. They differ substantially in a number of respects from the 1914 arrangement, and to investors doubtless one of the most important differences is that under the present scheme it is not possible to forecast with any approach to accuracy the dividends likely to be paid on various classes of stocks. While each company's share of the pool of net receipts has been fixed, the quantum of the pool, beyond the minimum guarantee level, depends on the net revenue earned by the main-line railways and London Transport.

There can be little doubt that, in the case of the main-line companies, the carryings of merchandise and mineral traffics since September show a very substantial increase over the pre-war level, although this is slightly offset by a reduction in passenger train receipts due to the restriction of cheap fare travel and the reduction in train services. Under present conditions, however, the receipts from passenger travel in the London area must be showing a very heavy decline and, as the board is dependent almost entirely upon such receipts, it follows that the main-line companies will have to bear out of their increased receipts from freight traffic, any reduction in net revenue sustained by the board during the control period. On the expenditure side several important considerations arise. The main point is, of course, the means by which increases in labour, maintenance, and renewal costs are to be met. The White Paper indicates that machinery will be established for facilitating the adjustment of rates, fares, and charges to meet such variations and, provided this functions without any unduly lengthy time-lag, the net revenue of the pool should not be affected materially by rising costs.

Possibly the next important question is that of Excess Profits Tax, as to which the Government White Paper is silent. In considering this factor it should be borne in mind that the railway companies (*a*) are limited by statute to their Standard Revenues, which were fixed by Parliament in 1921 as a reasonable return on their capital, and (*b*) are also subject under the terms of the present arrangement to a 50 per cent. levy on any profits in excess of a figure very substantially below their Standard Revenues. It will be generally agreed that no undertakings should be permitted to make undue profits out of the war, but, as the net revenues of the railway companies and London Transport are already limited in two directions, there would appear to be little justification for imposing a third limitation of profits or the double taxation which such a step would involve. A decision on this point may possibly be deferred until the results of operating under war conditions for a reasonable period become available, although it will be noticed that the Minister of Transport stated on February 13 that the agreement gave the railway companies and the board no *Statutory* exemption from E.P.T.

A further point is that of war damage. Provision is to be made for charging against revenue expenditure the cost of restoring war damage on the five undertakings up to a maximum of £10 millions in any one year. While, fortunately, this question is at the moment of academic interest only, it should be pointed out that, after the full £10 millions has been charged to the pool in any one year, any balance will have to be borne by the individual company or companies concerned. Further, the effect on the financial results of individual companies of the cost of restoring war damage will depend also upon the level

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of the pool at the time the deduction has to be made and the incidence of the damage on the various companies' lines. Provision is also made in the White Paper for the repayment by the undertakings to the Exchequer, under Section 40 of the Civil Defence Act, 1939, of one half of the grants made for Air Raid Precautionary measures, representing a payment of between £2 millions and £3 millions, when the guaranteed minimum is reached, but no indication is given whether such payments will be made in any one year or spread over several years.

Finally, there is the question of the inclusion in the financial results of the controlled undertakings of the receipts and expenditure in respect of the requisitioning by the Minister of Transport of privately-owned wagons, in connection with which the railway companies will doubtless require to satisfy themselves that they incur no loss. So far, the rates of compensation for requisitioning have not been determined by the Government, but certain payments on account have been made, and the railway companies are charging company's wagon rates on traffic conveyed in the vehicles. Sufficient has been said to indicate some of the uncertain factors inherent in the scheme, but doubtless the declaration of dividends within the next fortnight by the four main-line companies will give some indication of their experience since they were brought under control, and will assist stockholders better to estimate future potentialities.

* * * *

The Enemy's Strength

IT is generally admitted to be a mistake in war to underestimate one's opponent, and if in fact the German railway system is not weak relatively to the railway systems of the other belligerents the many recent disparaging articles in the lay press—of which the latest and most circumstantial has appeared in *The Daily Telegraph*—will have done no service to the British people. Both in connection with this article and generally with statistical comparisons that are being published in various non-technical papers outside Germany, the comparisons are valueless unless they compare specific figures with their context. For example, accident figures not related to total mileage and traffic density are incomparable. Nor, as we have recently pointed out, can the general efficiency of railway equipment be gauged from an epidemic of passenger train collisions which have almost certainly been due to failure of the human element. Wagon figures of units only, without any reference to capacity or speed of turn-round and transit, are similarly misleading. Comparisons of units of steam motive power ignoring capacity and also ignoring other forms of motive power used, can lead to no accurate conclusions. Doubtless some very alarming figures could be produced in relation to our own Southern Railway if its extensive programme of electrification during the last 15 years were ignored. Mileage figures of permanent way renewal in any particular year cannot provide a reliable criterion of the condition of the track which, if so well founded and maintained as that of the Reichsbahn, can safely bear comparative neglect for a considerable period.

From the information which we have published during the past six or seven years, much of it gleaned first hand and all from reliable sources, it seems that those responsible for the management of the German State Railway have faced the problem of coping with a rapidly increasing traffic, combined with a number of altogether unusual difficulties, so efficiently that although at the present time the railways, like those of the other belligerents, are probably overburdened, they may be expected to catch up and keep abreast of war developments at least no less effectively than the others, and are unlikely to prove the chink in the German armour which it is suggested they will. It should be remembered, too, that the railway services of any belligerent country can hardly be expected to give satisfaction either to the travelling public or to traders at a time when the paramount necessity of war transport has to be observed. Until the *Anschluss* there had not been any shortage of wagons, and the Reichsbahn had proved adequate to meet all the requirements of the rearmament period in addition to the unexpected increases of commercial traffic, and difficulties were first experienced when the administration had to assume responsibility for the less well-equipped railways of Austria.

The following characteristic passage from *The Daily Telegraph* article deserves specific comment: "A volume of traffic which has risen [by 1938] 10 per cent. above the 1929 level, had to be handled by rolling stock which had been reduced by 4,000 locomotives and 85,000 trucks, to say nothing of the decline in quality of the remainder." Even if the figures of 4,000 and 85,000 are assumed to be correct, they would be quite in keeping with similar figures for any well-administered railways. For example, our own main-line railways reduced their locomotive stock by 3,409 in the same period. The justification of course lies in the greatly increased power, efficiency, and availability of the modern locomotive. In point of fact the figures of total locomotive stock given in the annual Reichsbahn reports as at the end of 1929 and 1937 were respectively 24,089 and 21,838, a difference of 2,251. The figures given in the report for 1938 are much higher as they include Austria and the Sudetenland and are therefore not comparable. Further, it is misleading to leave out of account the enormous extension of electrification which has taken place in Germany, as well as of diesel traction. With regard to the latter, it is not only that a considerable amount both of main line and local passenger traffic is now handled by diesel traction, but in the last ten years between 1,000 and 1,500 *Kleinlokomotiven* have been introduced. These small engines, mostly diesel, are used for shunting purposes at wayside stations and have contributed considerably to the general speeding up of traffic. Their work has also replaced that of a large number of steam locomotives. Again, with an abnormal proportion of the rolling stock laid up in the trough of the slump in 1932, the Reichsbahn Administration was probably justified in supposing there would be ample capacity to meet anything like normal traffic expansion without an increase in the total of units available, especially as, with new construction, unit capacity increased. It is of some interest to mention that the Reichsbahn annual report for the year 1932 pointed out that the average number of locomotives in excess of requirements during the year amounted to 4,100, and that at the end of the year no fewer than 3,700 were lying idle. In addition 889 obsolete locomotives were put out of service and 150 new locomotives introduced. Over 100,000 wagons were also laid up then.

The very considerable volume of evidence and information at our disposal leads us to the conclusion that the railway system in Germany proper has been maintained up to the outbreak of war in a high state of efficiency, and in general was adequately provided with motive power and rolling stock. The position may be considerably less strong in acquired territories, and such acquisitions as Austria, Poland, and (to a smaller extent) Sudetenland, may have weakened the average position statistically. At the same time, Germany is not fighting on all fronts, and it would seem that from the Allied strategic point of view the principal interest lies in the efficiency of the railways in Western Germany and of the rail access thence from important industrial and military centres.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Maintaining Railway Goodwill

Southern Railway,
General Manager's Office
February 6

To the Editor of The Railway Gazette

Sir,—Your article on "Principles of Compensation" on page 139 of your February 2 issue is excellent, and what I particularly like about it is the last paragraph. I am constantly urging how important it is "to retain to the full that public goodwill which has proved so great an asset in the past," and every railwayman has to try and remember this.

Yours faithfully,
E. J. MISSENDEN

Railways and the Government

10-12, Copthall Avenue, E.C.2
February 12

To the Editor of The Railway Gazette

Sir,—What an appalling thought it is that only the calamity of another great war has sufficed to restore our railways to their rightful and predominant place in the nation's transport system. A whole procession of brilliant Ministers of Transport has seemed to be engaged in sapping the railways in times of peace, as the doubtful means of fitting them for the vital part they have to play in war conditions. The nation has to thank the foresight and efficiency of the railway managers, together with the patience and enforced abstinence of the shareholders, for overcoming Governmental apathy and establishing our railways before the outbreak of war at the highest point of readiness and efficiency.

Taken all in all the agreement arrived at between the Government and the railways last week is probably the most constructive effort since the Railways Act, 1921. Even the neglected Standard Revenue provisions of that Act have been made the framework of the new agreement, and shareholders will not complain that it is on a "rationed" basis. The charge in certain political quarters that the terms are too generous is met by the fact that on the minimum guaranteed basis the average rate of interest on railway capital is only 3·3 per cent., and even if the companies under the operation of the agreement are allowed to earn their Standard Revenue, the average rate is raised only to 4·7 per cent., and at that stage the Exchequer's share of profit would be £12½ millions per annum. The reference to "sacrifice" on the part of railway shareholders leaves out of account the fact that, ever since Standard Revenue was set up, their participation has been a diminishing one, and so it was impossible to find any margin for sacrifice when the bulk of the junior stockholders were getting no return at all. That deficiency was their very definite and handsome contribution towards the maintenance of an efficient railway system in peace and war.

Much is being made of the "recovery" in railway stocks that has followed the publication of the agreement. This leaves out of account the disastrous depreciation which has gone on for so many years and which was aggravated by the failure of the Government to deal with the situation in a constructive way. So many bitter lessons in the past had even led railway shareholders to expect another "kick in the pants." There is no doubt, however, that the full measure of co-operation and community of interest between the companies and the Government which has now been established has changed all that. And not the least advantage of the new Governmental spirit imported into this agreement is that it has enhanced the national credit among the 850,000 investors directly concerned.

Yours faithfully,
W. J. STEVENS

The Force of Habit

85, Woodville Road,
New Barnet, Herts
February 10

To the Editor of The Railway Gazette

Sir,—Since Monday, February 5, L.N.E.R. coaches have been used for the majority of the through trains between the L.N.E.R. (G.N.) suburban lines and Broad Street, in place of the L.M.S.R. stock hitherto invariably employed. Possibly this changeover is a matter of national importance, since it has been carried out with the greatest secrecy—not even the regular passengers being told anything about it until they made enquiries. The result of this "hush-hush" policy is that the ticket collectors at Broad Street have been very busy collecting excess fares from over-carried passengers, who, one believes, were most annoyed at being delivered miles from their expected destination.

I am a regular traveller by the 8.14 a.m. from New Barnet to Broad Street, but not once during the whole week did the guard of this train think it incumbent on him to draw public attention to the fact that, despite the L.N.E.R. coaches, this was a Broad Street train. It has always been the habit of passengers on the L.N.E.R. (G.N.) section to identify Broad Street trains by the red L.M.S.R. livery. Thus King's Cross passengers would know at a glance that an L.M.S.R. train was not the one they should take, whilst Broad Street passengers would not get in anything but an L.M.S.R. train. Owing to the absence of announcements, either by posters or vocal (station staff) hundreds of passengers have been taken to unexpected destinations.

In this connection it is well to note that once a passenger gets carried off in the Broad Street direction, he is bound to go through to the City, for he cannot regain L.N.E.R. territory until the afternoon owing to the absence of trains from Broad Street after 8.10 a.m. The only means of transport, without intermediate foot-slogging, is by Metropolitan Line from Liverpool Street. Surely it would have been only fair for the companies concerned to make known this arrangement in advance. But perhaps, in the words of an irate traveller this morning, the "railways don't care these days?"

Yours faithfully,
R. G. LUCAS

[Normally we are compelled through pressure on our space to decline publishing letters to the Editor of purely local application and therefore of little interest to the vast majority of our readers throughout the world. Mr. Lucas's letter, however, apart from ventilating his particular grievance, is of more general interest in its evidence of the strong force of habit among travellers. It will be remembered that when London Transport projected certain of the Bakerloo Line tube trains to Stanmore over the Metropolitan Line (diverging at Bakerloo Street from the older route) it was found advisable to distinguish the Stanmore trains by marking them prominently on the front with a large "M" (meaning Metropolitan Line) to facilitate the segregation of passengers; the arrangement was illustrated and described briefly at page 851 of our issue of December 29 last.—Ed., *R.G.*]

L.M.S.R. Travel Enquiries Record

Since the outbreak of war, the Euston "at your service" bureau of the L.M.S. Railway has dealt with over 395,000 telephone enquiries relating to passenger travel. This is easily a record, and is 50 per cent. in excess of previous figures. The bureau seldom deals with fewer than 3,000 enquiries a day. Last month it had 118,000; at Christmas it was necessary to treble the normal staff and take over a large number of additional phones.

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THE SCRAP HEAP

Every railway facility varies from being an absolute essential to some people to a quite easily dispensable luxury to others.—*Lord Stamp at the monthly luncheon of the Institute of Transport.*

* * *

Just think of it: The Government imposes a Means Test on the old-age pensioner and the disabled workman. It calls for more sacrifices from the wage-earner. And simultaneously, it invites us to witness, applaud, and pay for the spectacle of a raging wartime boom in railway stocks, with huge capital profits for the City gambler!—*From the "Daily Herald" of February* 8.

* * *

SALVAGING LONDON TRANSPORT WASTE PAPER

The London Passenger Transport Board is co-operating in the campaign of the Ministry of Supply to salvage waste paper. Last year 488 tons were collected from the board's vehicles and premises. Plans have been made to increase this amount in 1940, and paper that was destroyed in normal times is being salvaged. Passengers can help the campaign, and at the same time make London tidier, by making greater use of litter boxes and baskets. At present only a small proportion of passengers places used tickets in the litter boxes provided on road vehicles.

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A DECLINING INDUSTRY?

Now from 1922 till the present time, the railways have earned nothing like the standard figure set for them. Why? Because the railways were a declining industry. Road transport was developing, competition increasing in many directions. Year by year the railways got into a back-water. But the Government take 1935, 1936, 1937 on which to guarantee profits. Taking into account the back-water into which the railways had fallen, these years were good indeed. Traffic was heavy, stocks stood high, railways did well.—*From the "Daily Express" of February* 8.

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USES FOR OLD RAILS

There are many railway uses to which old rails can be put, and they have been employed for the manufacture of stop blocks, load gauges, cattle pens, fence posts, boundary and mile posts, as centring for bridge work or supporting tunnel shields, as rail guards on viaducts, weighbridge guards and traffic kerbs, straining-posts for signal stay wires, skids for framing-up crossing work, manhole covers, as structural members in station buildings, in grillage foundations and as reinforcement for concrete, for turntables, and as rail "glands" (or "hanging rails") for temporarily supporting the track during underline excavation. Also, laid on the flat, they can be used to make a kind of decauville road for muck skips in connection with earthworks. A more recent use has been for fortifying A.R.P. strongholds. They have even found their way into offices where they do duty for hearth kerbs, door stops and paperweights. After eventually being sold by the Stores Department to "outsiders" they sometimes come to life again in traders' and works sidings, or are re-rolled to a smaller section at a steelworks for export to overseas railways.

Old rails are also converted into colliery arches, bedstead angles and other articles of commerce, and may be seen in use as kentledge, makeshift anchors, bollards, piles, and a hundred and one other uses or abuses. Latest of all is their employment in short lengths embedded upright in the ground as anti-tank defences for the Maginot Line. Finally they may end by being melted down, only to commence a new cycle of existence.—*From a paper to the Permanent Way Institution on February* 7 *by Mr. E. T. Hutt.*

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The trouble of 1914 had broken out, and the members of the local Railway Defence Rifle Association were being called up for service on lines of communication. Among the list of articles recommended for members to take with them was that indispensable adjunct to bachelor comfort—a "housewife" or "hussif" as it is called. Among his mail one day the Adjutant found a letter from one of the members advising that as a single man he could not bring a housewife with him, but could he bring his sister instead?—*From the "South African Railways & Harbours Magazine," January,* 1940.

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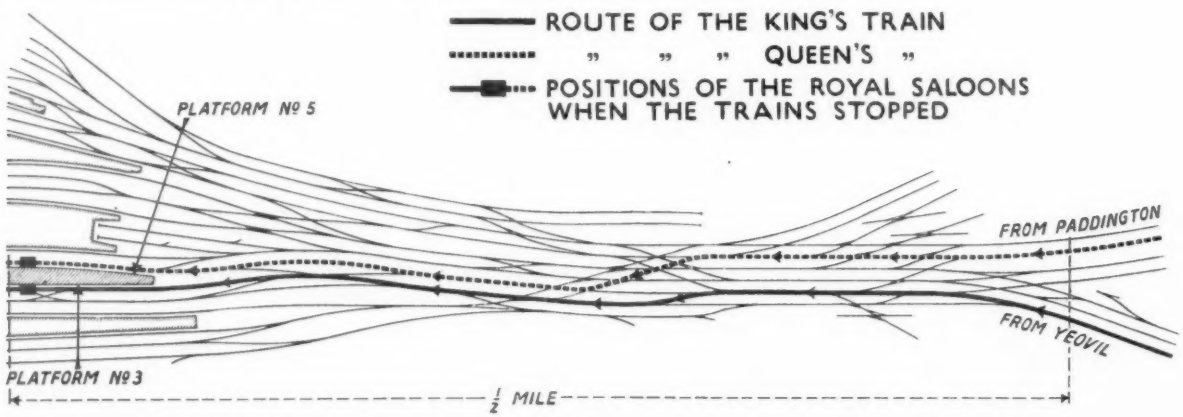
OLD S.R. ANNUITANTS

Mr. Michael Lelew, one time Southern District Goods Manager of the L.B. & S.C.R., died recently at the age of 94. Mr. Lelew was one of the oldest annuitants on the books of the Southern Railway Superannuation Fund. Mr. G. Best, who was formerly a Goods Clerk at Brighton, and retired in 1905, is the oldest annuitant; he was born in 1844.

Two Royal trains run side by side on G.W.R. in arriving simultaneously at Bristol

The Great Western Railway was given an unique opportunity on Wednesday, February 7, to make what must be regarded as an event of national interest and certainly of railway history. In connection with a Royal tour of the West Country, it was not possible for the Queen to begin the tour with the King, but it was arranged that, on the Wednesday referred to, a private special train would run from Paddington to Bristol with the Queen, so that Her Majesty could join the King at Bristol on the Royal train which was travelling from Yeovil *en route* to Yatton. The unique part of this arrangement was that, by careful planning and timing and with good locomotive performances, it was possible for the Royal train travelling from one direction to run into Bristol (Temple Meads) station simultaneously with the special train conveying the Queen, with the result that, for about a quarter of a mile, the two trains (the one conveying His Majesty, and the other the Queen) were running alongside, both trains coming to a stop at the same moment with the two Royal saloons opposite each other.



OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

ARGENTINA

Fourth South American Railway Congress

It is announced that the fourth congress under the auspices of the South American International Railway Association, will be held in July, 1940, at Bogota, the capital of Colombia. The first of these congresses, which met in 1910, was one of the features of the centenary celebrations of Argentine Independence, held that year in Buenos Aires, and was attended by 129 delegates representing seven nations and 25 railways. The second Congress was held in Rio de Janeiro in 1922, and was attended by 92 delegates representing 11 countries and 22 railways. The meeting place of the third Congress, held in 1929, was Santiago de Chile, at which 125 delegates from 11 countries, and representing 25 railways, were present. It was proposed to hold the next Congress in 1934 in Lima, but owing to the internal affairs of Peru at that time this plan had to be abandoned. Permission was then sought from the Government of Colombia to hold the fourth Congress in Bogota.

The executive committee in charge of the Argentine section is composed of Dr. G. E. Leguizamon, Chairman; Engineer Enrique Chanourdie and Engineer Atanasio Iturbe, Vice-Chairmen; members: Dr. Angel Sanchez Elia and Engineer Alberto Mendez Casariego; General Secretary: Engineer Joaquin Nuñez Brian.

The Argentine technical committee is composed of the following:—

Engineers A. Noni and A. Helguera, Director-General and Deputy Director-General of Railways, respectively; Señor E. Huergo, Deputy General Manager of the State Railways; Señor R. J. Gutiérrez, Chairman of the Committee of National Transport Co-ordination; Señor M. F. Castello, Vice-Chairman of the City of Buenos Aires Transport Corporation; Professors E. Rebuelto, T. Sánchez de Bustamante, D. Ardigo and M. M. Diez, representing the Universities of Buenos Aires and La Plata; Engineer C. Ochoa, Chief of Operation, State Railways; Señores G. Caizergues and F. Taylor, Chiefs of Tariffs and Labour Sections, respectively; and Señor J. Kurtzermann, Chief Accountant, Rosario and Puerto Belgrano Railway.

C.A.R. and B.A.P.R. Combined Circular Tickets

With a view to providing additional facilities for tourists visiting the Cordoba Hills, the C.A.R. and B.A.P.R. have arranged to issue combined first class circular tourist tickets, with the option of returning either by the route of the issuing company or by that of the other. These tickets will be issued by the C.A.R. from Buenos Aires to Córdoba or Alta Gracia, and will be available for return over the B.A.P.R. from the following hill stations: Concarán, Rodriguez Sáa, Tilquicho, Conlara, Los Cerillos, or Villa Dolores, to Buenos Aires. Similarly, these tickets will be issued by the B.A.P.R. to any of the aforementioned stations, and will be accepted by the C.A.R. for the return journey to Buenos Aires from Alta Gracia or Córdoba. The minimum period of availability is 90 days, and this may be extended according to the date of issue. Passengers with B.A.P. touring tickets corresponding to the zone referred to, or C.A.R. season tickets to Córdoba or Alta Gracia can also avail themselves of this facility on payment of the corresponding difference. Passengers travelling with the new circular tickets, who may wish to take their own cars, can convey them over either route, for which purpose special rates have been put into force.

New Railway Bridges for Buenos Aires

Due to the widening and deepening of the Riachuelo river, entailing a number of important changes in its course, the Argentine Government proposes to construct several new bridges over it in the Buenos Aires area for the B.A.G.S., B.A.W., and B.A. Midland Railways, at an aggregate cost of $12,000,000 paper. The construction of these bridges is expected to extend over several years, and the manner in which the cost of the work will be defrayed by the railways concerned is under discussion; the details will be embodied in the final agreement.

Wheat Exports during 1938-39

According to figures issued by the National Grain and Elevators Board, Argentine wheat exports during the twelve months ended November 30, 1939, amounted to 4,325,213 tons, equivalent to 47·27 per cent. of the 1938-39 harvest. This quantity is more than double that exported during the previous agricultural year, and is 680,000 tons above the yearly average during the last decade.

Government to Take Over Grain Elevators

The Federal Government has announced its intention to take over a number of privately-owned grain elevators situated in different parts of the country and incorporate them in the State-owned system, in accordance with the law authorising this procedure at the Government's discretion. The elevators to be expropriated include the terminal elevator at Rosario North and those at Alejo Ledesma, Cabrera, Monte Maiz, Otto Bemberg, Alcorta, Elortondo, San Marcos, Villaguay and Dominguez, the property of the American Rural Development Corporation; those at Oliva, Leones, and Firmat, owned by the local co-operative societies; that at Armstrong, belonging to the Argentine Co-operative Association; that at Fuentes, purchased by the Bank of the Nation from a debtor, and that at Tanacha, transferred to the Institution for the Mobilisation of Banking Assets.

UNITED STATES

New York—Mexico City Through Sleeping Cars

The first through sleeping car service linking New York, Philadelphia, and other American cities east of the Mississippi directly with the City of Mexico, was established on January 13 by the Pennsylvania Railroad in co-operation with connecting lines and the American Express Company's travel service. One trip is being operated weekly in each direction during the remainder of the winter tourist season, ending the first week in April. Covering 2,931 miles each way, this new international service affords the longest continuous regularly-scheduled railroad journey, without change of cars, ever provided in the western hemisphere. The cars used are air-conditioned.

Passengers leave New York on Saturdays by the P.R.R. American at 8.35 p.m. and arrive at St. Louis at 4.50 p.m., on Sunday evening. Departure from St. Louis is 40 minutes later by the City of Mexico, operating over the tracks of the Missouri Pacific, Texas & Pacific, International & Great Northern, and National Railways of Mexico, and arriving at Mexico City at 5 p.m., Tuesday.

Returning, passengers leave Mexico City on Thursdays at 8.20 p.m. on the Sunshine Special, arriving at San Antonio, Texas, on Saturday, at 8.30 a.m., where a full day stop is provided in the regular tour. The north-bound journey is resumed on Sunday at 9 a.m., and New York is reached at 7.30 on Tuesday morning.

Operating Records in 1939

According to Mr. J. J. Pelley, President of the Association of American Railroads, the member roads attained a new high record in general operating efficiency in 1939. Both the average speed between terminals and average train loading for freight trains were the highest ever recorded. Also, another record was achieved in freight locomotive fuel consumption: 8·9 tons of freight and equipment were moved one mile for each pound of fuel consumed, whereas only 5·8 tons was the corresponding figure for 1920. The 1939 figure is equivalent to 112·4 lb. of fuel per 1,000 gross ton-miles.

FRANCE

Rolling Stock Shortage

Goods formerly moved in France by road have largely been transferred to the railway, and goods traffic by rail is said to have risen by between 40 and 50 per cent. This has placed the S.N.C.F. in a difficult position. It has no surplus rolling stock, because of the strict economy necessitated in recent years by the heavy railway financial deficit. Orders for locomotives, wagons, and coaches are now being distributed for

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urgent execution in France and Belgium, but deliveries are not expected to be made at the specified dates; the company has to make the best possible use of the available stock for an undefined period; it is also short of staff, of whom 100,000 have been mobilised.

DENMARK

Wartime Acceleration

Despite war conditions, the Danish State Railways are maintaining practically without curtailment their Lyntog, or diesel high-speed trains, only the Englaenderen, which provided the service between Copenhagen and Esbjerg in connection with the Harwich steamers having been withdrawn. Certain of the steam-hauled trains have been cancelled, owing to reduction of traffic, and, as this has made better paths available for the high-speed units in a number of cases, there have been certain accelerations instead of reductions in speed. As a result, the number of daily scheduled runs in Denmark at over 60 m.p.h. has increased to 18, with an aggregate mileage of 776, as compared with 16 runs totalling 709 miles in the previous timetable of May, 1939.

The fastest run in Denmark continues to be that of the Ostjyden unit from Roskilde to Slagelse, 38·3 miles in 35 min., at 65·7 m.p.h. start to stop; the longest is that of the Kronjyden, which runs without stopping over the 123·1 miles from Aarhus to the Great Belt ferry terminal at Nyborg, passing *en route* over the Little Belt bridge. The time of this run has been reduced to an even two hours, giving an average speed of 61·6 m.p.h. Next in length to this comes the westbound run of the same train from Copenhagen to the Korsor ferry terminal, 68·4 miles in 66 min., at 62·2 m.p.h.; on the eastbound journey an interesting development is that two complete units—the Kronjyden and the Vesterhavet—run coupled together from Korsor to Copenhagen, and passengers by the Vesterhavet achieve a correspondingly earlier arrival in Copenhagen in consequence.

State Railways Rolling Stock Programme

The rolling stock programme for 1940 includes six 2-8-0 locomotives as additions to the existing twelve engines of this type. The new ones are [as recorded in the Contracts & Tenders column on page 71 in our January 12 issue —ED., *R.G.*] being built by A/S Frichs of Aarhus. These powerful locomotives are intended for hauling heavy goods trains fitted with compressed-air brakes, the installation of which upon all wagons should be completed by the end of this year.

Other stock included in the programme and ordered from the Scandia works at Randers consists of 18 large refrigerator vans, 70 covered vans for meat traffic, 10 ordinary open wagons, 10 40-ton bogie open wagons and 6 post office vans. The passenger stock ordered includes 12 welded all-steel "AU" type, bogie coaches, having three first class and five common class compartments; they are intended for use in the internal as well as in the international trains. The total sum involved by the purchase of this new rolling stock amounts to Kr. 9,000,000, of which Kr. 2,500,000 is absorbed by the installation of the compressed-air brake.

New Works

Owing to the outbreak of war, the electrification of the Valby—Ballerup line in the Copenhagen area will be delayed, so that the section from Valby to Vanløse will not be completed till 1941.

On the main north-south (east coast) line in Jutland, the last remaining lengths of 37 kg. per m. (75 lb. per yd.) rail will now be relaid with the new 60 kg. per m. (121 lb. per yd.) type, and also some stretches with older 45 kg. rails will be relaid with the heavier type. The released 45-kg. rail will be laid on the Koge—Naestved line in Zealand, where the present 37-kg. rails are worn, and where an additional depth of ballast will at the same time be laid.

The Bramminge—Holsted section on the Esbjerg—Fredericia line is to be doubled, and the station buildings at Hjørring and Aalborg will be rebuilt and modernised. Extensive modernisation works will also be carried out in the repair shops in Copenhagen and Aarhus, and modern coaling plant is to be installed in Copenhagen; at Fredericia a large new coal yard will be built in the new harbour there.

All these improvement works involve a sum of about Kr. 14,000,000.

SPAIN

Alcañiz-Tortosa Line

The Valdezafran section of this line, which, after being abandoned for many years is being completed by the State, is nearly ready for opening to traffic. A junction has already been effected with the Northern Railway main line, part of which, to Cherta, was destroyed during the civil war. The opening of the Alcañiz line is expected to be of considerable benefit to Tortosa and the surrounding district.

The Rolling Stock Position

The formidable task of repairing and renewing the locomotives and rolling stock destroyed and deteriorated during the civil war proceeds apace. In the whole of Spain, before the civil war there were some 68,000 wagons; at the end of the war it was calculated that 17,000, or over 26 per cent. of these had disappeared, either destroyed or scrapped, in the republican zone. Many of the remainder required repairs. Construction was begun immediately after the war, and 2,500 new wagons have already been delivered, as well as a number of 20-ton bogies and other special types. Delivery is expected very soon of 400 more wagons.

The locomotive position is also rapidly improving. Of the 4,000 engines owned in 1936, more than 1,000 were destroyed or damaged by the republicans. About 250 of these have now been repaired, and the construction is rapidly proceeding, in the national workshops, of the new locomotives authorised by the Decree of May 8, 1939 (see THE RAILWAY GAZETTE of June 9, 1939). Ten of these new engines have already been delivered. They are described as weighing 116 tons in working order, of 3,000 h.p., and designed for speeds of 110 km.p.h. (68 m.p.h.).

The electrification of the Madrid—Avila and Segovia lines of the Northern Railway will release some 80 locomotives including many modern express engines, and this work is expected to be completed in eighteen months.

Similarly in the matter of permanent way, great progress is being made with the renewal of rails and sleepers, and repairs and replacement of bridges and culverts.

GERMANY

Improving the Rheingold Route

With the increase in the speeds of its fast trains, which has been a marked feature of Reichsbahn policy in recent years, including such special expresses as the Rheingold, much inconvenience was experienced at certain points along the routes paralleling the Rhine, because of sharp curvature requiring serious speed restrictions. This was particularly so at Bacharach, north of Bingen, on the left-bank route between there and Koblenz, where there were several sharp reverse curves conforming to the contour of the river bank and the other features of the topography to which the railway alignment had to be accommodated. Proposals for its improvement were made over ten years ago, but various influences, such as ownership of property and the attitude of local authorities, combined to delay matters. It was also thought desirable to consider the question in conjunction with the proposed improvement of the relationship between railway and parallel highway, which has long been a serious matter everywhere along the route, owing to the numerous level crossings which greatly hamper both rail and road traffic at times. Plans were at length agreed to by the railway, road, and Rhine conservancy authorities, and the work is in hand. A new embankment is being built out into the river at the worst part to enable the railway and road to be carried side by side for some distance with very easy curves, so that the speeds of fast trains will in future not be restricted. A certain relief will also be given to the road traffic through the town itself, in which the streets are extremely narrow for the most part.

BELGIAN CONGO

Railway Extension

At the beginning of this year the Upper Congo—Great Lakes Railway opened for traffic a new line connecting the existing Kindu (Port Empain)—Kongolo and Kabalo—Albertville railways. In addition to freight traffic, there is a weekly mail service in each direction with sleeping and dining cars.

REACTIONS TO THE RAILWAY CONTROL SCHEME

Survey of opinions on the financial arrangements between the Government and the main-line companies and London Passenger Transport Board

The outstanding importance attaching to the financial agreement between the railways and the Government for the period of control, full details of which were given in THE RAILWAY GAZETTE last week, is demonstrated by the widespread attention which has been accorded it in the lay press. In the great majority of cases the agreement has been the subject of comment in both the financial and editorial columns of the newspapers, and a selection of extracts is given below.

The Railway View

The view in railway circles upon the scheme is given by the following officially-approved comments.

The Government made it a condition that the compensation payable to the several companies during the period of control must, subject to guaranteed minima, be governed by the actual net earnings of the companies as a whole, including the London Passenger Transport Board, and also that the Government must participate in any net earnings above a predetermined level. The basis of this proposal was that there should be a community of financial interest between the Government and the companies, and to secure this the Government considered it necessary that the companies should have a direct financial interest in the expenses of working the railways, some inducement to see that charges were maintained at an economic level, and a direct concern in the amount secured by way of net revenue.

The control by the Minister of Transport of those five large undertakings with an issued capital of £1,200 millions is intended to secure that they are carried on in such manner as may be necessary for the efficient prosecution of the war, including the maintenance of essential supplies and services, but at the same time it is also intended that the arrangement should be on a commercial basis.

The machinery for adjusting charges under the Railways Act, 1921, and the London Passenger Transport Act, 1933, is to be suspended, but in lieu thereof new machinery has been agreed under which charges will be adjusted as necessary to meet variations in prices and conditions. Payment will be made for the conveyance of all Government traffic, the charges to be fixed broadly on the same conditions as would apply to large commercial concerns, taking into account the volume and regularity of the different classes of traffic conveyed. Appropriate payments will also be made for railway rolling stock, hotels, ships, warehouses, and other assets taken over by the War Department, Admiralty, and so on. All pooling arrangements between the main line companies and between the main line companies and the London Passenger Transport Board are to be suspended and the separate results of the working of each of the five undertakings will no longer be ascertainable. The whole of the net revenue of the five undertakings will be pooled, an exception being the revenue of the railway companies from investments in road transport undertakings and from railways in Ireland which is treated as outside the control arrangements.

The experience of the last war and that of the present war to date indicates that the railway companies will carry much heavier traffics than in any recent years and regard has been had to this factor in arranging the four stages in the division of the pool of net revenue. The first stage is a minimum annual payment out of the net revenue of the pool to each of the five undertakings and this is guaranteed by the Government. This minimum is equal to (1) the net revenue (apart from the excluded items) of each of the railways for the average of the years 1935, 1936, and 1937, and (2) the net revenue of the London Passenger Transport Board for the year to June 30, 1939, making a total of approximately £40 millions.

The second stage is that out of any balance remaining in the pool after payment of the minimum guarantee, a further £3½ millions, making £43½ millions in all, will be paid to the five undertakings in the proportions of the minimum guarantee.

In the third stage, if the pool exceeds the £43½ millions there will be an equal division of the excess between the Government on the one hand and the five undertakings on the other, until a limit of £68½ millions is reached. The share of the five undertakings will be divided in the proportions previously mentioned, but so that no railway company will receive (together with its non-controlled net revenue) more than its standard revenue, or the board more than the standard rate on its " C " stock, a total of £56 millions.

In the fourth stage, the Government receives all net revenue in the pool in excess of the £68½ millions.

The above figures are approximate only and there are two qualifications. The first, which might possibly affect the minimum, is a provision that the charge to the pool for the cost of restoring war damage in any year is limited to £10 millions although the actual cost may be greater. The second is a non-recurring payment to the Exchequer under the Civil Defence Act, 1939, of between £2 millions and £3 millions for certain A.R.P. works financed by the Government. It is payable only when the minimum is exceeded.

These arrangements are clearly a compromise. The railway companies lose the benefit of the Railways Act, 1921, relating to the fixation of charges and have to share their net revenues with the Government; on the other hand, they receive from the Government a minimum guarantee equivalent to their average net revenues for the years 1935, 1936, and 1937 inclusive. The London Passenger Transport Board is in much the same position as the railways, as the standard interest on its " C " stock is treated as its maximum and its 1938/9 return as its minimum. The broad effect of the scheme may, perhaps, be described as one which reduces the potential earnings of the undertakings and provides minimum returns.

Three other points arise. The first is a temporary arrangement affecting the board for the six months to December 31, 1939; the second is an arrangement stabilising maintenance charges at the levels of the basic period adjusted to meet altered conditions; and the third is the inclusion in the pool of the receipts and expenditure arising from the Minister's control of privately-owned wagons.

Range of Returns

The financial arrangements enable estimates to be made of lowest and highest possible returns, and the different points at which each undertaking will attain its Standard Revenue, but it is not possible to forecast the probable results in any future period as much will depend on the volume of work done by the railways. Before the war a return to 1937 results in 1939 was anticipated, and since August the available figures indicate a large expansion of freight traffic offset in part by less passenger traffic, particularly in September and October. Further expansion is well within the railway capacity, but future earnings must depend upon the use made of the railways for Government and other traffic.

The tables which were given in THE RAILWAY GAZETTE last week, showing the approximate net revenue and the returns on the junior stocks of each undertaking together with the payments to the Government at certain stages, are subject to the special features already mentioned, *i.e.*, (*a*) any variation in the level of the non-controlled net revenue of the four railways; (*b*) the possible effect of war damage; (*c*) the repayment for certain A.R.P. works; and (*d*) the possibility of maintenance expenditure in excess of the standard allowances.

The British Railway Stockholders' Union Limited in a

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statement says that the Government has driven a hard bargain, but stockholders fully appreciate the necessity for close bargaining in time of war and have no grievance on that account. While they cannot be enthusiastic, they agree that the settlement at least justifies the term "sensible" which Captain Euan Wallace applied in anticipation. The fact that the depression year of 1938 has not been included in the period which determines the minimum compensation is a matter for congratulation, as this would have constituted a very real hardship for stockholders. As half the surplus profits (beyond £43½ millions) will be shared with the Exchequer, the actual achievement of Standard Revenue is unlikely in the near future. Railway stockholders regard this as their special contribution to wartime expenditure.

National Press Comment

The Times.—Without doubt the war will add greatly to the traffics of the companies, and for heavier work and a greater use of railway transport the companies are entitled to a proper return. . . . The railway companies can regard the outcome with a considerable degree of satisfaction, for legitimate interests have been safeguarded by their negotiators and conceded by the Treasury. At the same time the Government has made a business-like arrangement which can be defended in the light of day.

The Daily Telegraph.—This [the average of 1935-36-37] will be generally recognised as a reasonable provision, for in computing a minimum figure it would be doing less than justice to the stockholders to include, for example, such a year as 1938, the worst but one (from the railway point of view) in modern times. . . . In anticipation of such lessons as experience may bring, the present scheme has the merit of effecting a fair compromise between the claims of the stockholders and of the public, and of giving the railway managements a stimulus to economy without impairment of wartime efficiency.

The Financial Times.—The problem of the compensation . . . has been resolved by compromise, as was inevitable. The rail system has become in effect a national organisation, but while it has been sought to relate its operation as nearly as possible to commercial principles, the scheme as it stands bears the very clear imprint of the special relation in which the railways stand to the nation in the emergency.

The Daily Mail.—It is a fair scheme. Both the railway stockholder and the taxpayer have as far as possible received a square deal. Certainly there is no question of excessive payments to the railway companies. . . . But the vast traffic of war time will mean a boom to the railways. The railways will share in these benefits—as they are entitled to do. But so will the taxpayer—provided there is no serious dislocation through war damage. The public would also like to be assured that adequate provision has been made for the maintenance and replacement of rolling stock, so that the railways may be in a sound condition after the heavy wear and tear of the war.

Daily Express.—It is a very good settlement for the railways. . . . Why should the Government come along and prop up the railways in this most extravagant way? A private firm pays 60 per cent. Excess Profits Duty. If the railways earn more than the forty millions, there is nothing in the agreement to show that they will have to pay this duty. The Government must therefore give an assurance that they will be treated exactly the same as other businesses.

News Chronicle.—If the purpose of this profit-sharing is to make up for the ravages of wartime depreciation, this is not the right way to do it. A better way would be to allocate a sum at the end of the war which would restore the railways to a position where they could earn fair dividends. In the meantime, there is no case for allowing stockholders to benefit from increased wartime traffic.

Daily Herald.—So now we know something of what the Government means by equality of sacrifice, conscription of wealth and taking the profit out of war! It is going to allow the railway companies to earn enormously higher profits and dividends out of the wartime increase in traffic. . . . Indeed the stockholders look likely to do even better than the City's optimists had been hoping. . . . This might or might not be all very well as a peacetime bargain for buying the companies out. . . . Why should one section, the railway stockholders, be assisted by the Government to earn increased profit out of the war? . . . Those who buy railway ordinary or preference stocks . . . have no right whatever to demand compensation from the taxpayer.

The Star.—The railway companies have no cause to complain of the settlement. . . The agreement is couched in terms which almost ignore the plain reality that, under war conditions, the railways are practically bound to exceed very largely the figure fixed on the basis of the three picked years. . . . . The willingness of the Government to let the railways take half . . shows a confidence in national finance which is, to say the least of it, cheering.

The Economist.—It is not a question of compensating them [the undertakings] for loss of revenue, but of deciding how much of their increased earnings should go to the State, whose acts (chiefly that of going to war) are responsible for the railways' good fortune. . . . It is impossible not to conclude that the railways have been treated too generously. . . . The figure fixed for the guaranteed minimum is acceptable; so is the principle that in return for a guarantee the railways should hand over part of their present increased earnings. But the proportions they should retain and the maxima to which their revenues can rise have both been fixed too high. And it is deplorable that no protection seems to be interposed between the public interest in cheap transport and the railways' desire to earn a Standard Revenue which is no longer of more than historical significance.

The New Statesman and Nation.—On the whole . . . both sides have struck a fair bargain. . . . The agreement is probably the stepping-stone to nationalisation after the war. . . . It is a realistic as well as a just settlement. It would have been wicked if the Government, because it was paying the railways for Government traffic, had insisted on no raising of rates (as it did in the last war), for that would have meant a dishonest subsidy to the whole cost of living.

What the Provinces Say

The Scotsman.—On the whole, the agreement is generous to the railways, and especially to the transport board, whose traffics have been seriously affected by war conditions. Although the cost of the arrangement may appear to be less than that of the 1914 agreement, it has to be remembered that the Government is now to pay for the use of the railways at commercial rates, instead of using them free of charge. . . .

The Glasgow Herald.—It seems not improbable that under such a scheme the tendency to work for the individual company may gradually give way to arrangements for carrying out the work in hand in the most expeditious or the cheapest way possible, according as to whether speed or economy is the order of the day. If so there may emerge at the end of the control period a system which is near to the unification canvassed as long ago as 1920, when the existing amalgamation was being planned.

The Manchester Guardian.—The railways have had a square deal. If they do not get all they wanted, they do at any rate get all they could expect to receive. . . The railway companies probably consider the settlement a fair compromise. . . Since August they have carried substantially larger freight traffic, partly offset by less passenger traffic.

Western Mail and South Wales News.—The Government's guarantee . . . is just to the stockholders and the State. . . There is good chance that the State will not be called upon to pay a penny of its guarantee and, indeed, may itself receive contributions from the profits. It is a sound agreement. There will be no windfall for shareholders, but they get a modest security.

Liverpool Daily Post.—Public opinion, it may be reasonably expected, will approve the terms. . . Captain Wallace's expressed hope that the taxpayer may share in the profits may seem a little sanguine. It must be remembered, however, that goods traffic has increased enormously since the war began, and that 20 per cent. increase in the volume of goods carried may mean a very much larger proportional increase in net revenue.

XUM

WORLD RAILWAY SPEED IN 1939

A summary of the world's fastest railway runs, the increase in aggregate high-speed mileage that has taken place during the last nine years in Europe and North America, and the proportions in these figures borne by steam, diesel, and electric haulage respectively

By CECIL J. ALLEN, M.Inst.T.

THE advent of the war has arrested what in several countries has been the most remarkable development of high speed railway transport that has yet been witnessed in a single year. Since 1938, the principal additions to high-speed mileage in Europe were a further considerable increase, with electric propulsion in Italy, with diesel propulsion in Germany, and with both methods in Holland; in the United States, diesel, steam, and electric traction have all contributed to an acceleration which in one year has added 11,168 miles to the runs scheduled in that country at over 60 m.p.h. from start to stop. It is therefore a matter of historic interest that the world railway speed achievements of 1939 should be set on record, as in Europe at least it may be long before it is possible for these speed standards to be re-established. In this article the speed figures are presented in their usual annual form, and readers desiring to make comparisons between 1938 and 1939 other than those specifically mentioned are referred to the February 3, 1939, issue of THE RAILWAY GAZETTE.

TABLE A—PROGRESS IN WORLD RAILWAY SPEED, 1931-1939
AGGREGATE MILEAGE OF RUNS SCHEDULED DAILY AT SPEEDS OF 60 M.P.H. AND OVER FROM START TO STOP

Country	Year	75 m.p.h. & Over	70 m.p.h. & Over	66 m.p.h. & Over	62 m.p.h. & Over	60 m.p.h. & Over
		miles	miles	miles	miles	miles
Gt. Britain	1931	—	—	77	77	861
	1932	—	77	77	634	2,134
	1933	—	77	77	576	2,375
	1934	—	77	77	747	2,607
	1935	—	542	778	1,868	5,371
	1936	—	542	778	2,265	6,226
	1937	—	730	1,606	4,152	11,228
	1938	—	730	1,606	4,714	11,665
	1939	—	730	1,606	4,580	12,016
France ..	1931	—	—	—	95	1,268
	1932	—	—	148	818	2,373
	1933	—	—	295	3,198	5,462
	1934	—	70	820	3,046	5,859
	1935	—	834	1,755	4,649	7,412
	1936	—	1,522	4,116	8,592	12,487
	1937	—	2,016	5,491	10,894	14,678
	1938	—	1,850	5,284	10,253	14,594
	1939	—	1,009	2,576	7,293	10,527
Germany*	1933	356	356	356	712	712
	1934	356	356	712	2,009	2,836
	1935	1,542	2,287	3,641	5,118	6,276
	1936	1,709	2,683	3,708	5,580	7,982
	1937	1,504	2,513	3,819	5,660	8,235
	1938	1,275	3,043	4,919	7,182	10,236
	1939	3,558	5,050	6,921	9,981	13,614
Italy† ..	1936	—	—	26	489	741
	1937	—	131	261	774	774
	1938	—	131	381	1,399	2,125
	1939	—	1,187	1,866	5,588	7,324
United States	1932	—	—	—	454	2,022
	1935	119	935	3,964	11,530	19,279
	1936	385	2,422	8,686	19,345	30,047
	1937	694	3,194	9,242	24,771	37,412
	1938	1,012	4,415	12,630	31,293	48,247
	1939	1,204	5,040	16,234	39,441	59,415

* No runs as fast as 60 m.p.h. up to 1932 inclusive
† 101 miles at slightly over 60 m.p.h. in 1934 ; no mileage in 1935

Table A sets out the progress in speed between 1931 and 1939, in five of the principal high-speed countries, the tide of acceleration having begun to flow on an extensive scale in 1932. In Great Britain the principal improvements have been in 1932, 1935, and 1937; from 1937 to 1939 there has been little change. France is the only country to have shown a serious change for the worse in 1939, owing to the drastic economy campaign of last spring, which cut out most of the high-speed railcar services, and slowed down steam-hauled expresses; thus the mileage booked at 66 m.p.h. and over was more than halved, as compared with 1938, and at 60 m.p.h. and over was reduced from 14,594 to 10,527 miles. Germany, on the other hand, almost trebled the journeys of diesel high-speed units booked at 75 m.p.h. and over, which rose from 1,275 to 3,558 miles, and at 70 m.p.h. and over from 3,043 to 5,050 miles; at 60 m.p.h. and over the increase was from 10,236 to 13,614 miles, whereas as recently as 1932 there were no mile-a-minute runs at all in Germany. Italy did not come within the scope of this table until 1936, and in no more than three years has produced 1,187 miles scheduled at over 70 m.p.h., and 7,324 miles at over 60 m.p.h., the figure last-mentioned being 3½ times that of 1938. Even more meteoric has been the speed rise of Holland, with no mile-a-minute runs in 1937 and no less than 7,382 miles in 1939. In the United States, also, the increase of speed has been extremely rapid; whereas the U.S.A. mile-a-minute mileage was negligible in 1932, by 1939 it had increased to 59,415 miles, of which 16,234 miles were at 66 m.p.h. and over and 5,040 miles at over 70 m.p.h. For the first time in history the combined daily mileage of all railways booked at over 60 m.p.h. from start to stop exceeded the 100,000 mark, amounting to 114,099 miles; it is also a striking evidence of modern high-speed progress on rails that 13,256 miles were runs timed at over 70 m.p.h. As recently as 1932 the total mileage of all the world's railways booked at over 60 m.p.h. from start to stop was only 6,529 miles.

The Fastest Runs in the World

Table B gives a list of the fastest booked railway runs in the world. The fastest run of any description in the world was of the German Fliegende Kölner diesel unit, timed in the eastbound direction at 83·3 m.p.h. from Hamm to Hanover, and one of the new cross-country units was a close second, running at 83·2 m.p.h. from Bielefeld to Hamm, westbound. Of ten diesel-operated runs timed at more than 80 m.p.h. from start to stop, Germany claimed eight, including the first five; the other two were of the American City of Denver service of the Union Pacific. The City of Denver is timed over a total of 23·8 miles westbound and 45·4 miles eastbound at pass-to-pass speeds ranging from 90 to 102 m.p.h. There were 33 runs in Germany timed with diesel units at over 75 m.p.h., and 17 in the U.S.A., making a total of 50; the fastest run with diesel power in any other country was in France, at 73·0 m.p.h. from Nancy to Paris. The list of

statement says that the Government has driven a hard bargain, but stockholders fully appreciate the necessity for close bargaining in time of war and have no grievance on that account. While they cannot be enthusiastic, they agree that the settlement at least justifies the term "sensible" which Captain Euan Wallace applied in anticipation. The fact that the depression year of 1938 has not been included in the period which determines the minimum compensation is a matter for congratulation, as this would have constituted a very real hardship for stockholders. As half the surplus profits (beyond £43½ millions) will be shared with the Exchequer, the actual achievement of Standard Revenue is unlikely in the near future. Railway stockholders regard this as their special contribution to wartime expenditure.

National Press Comment

The Times.—Without doubt the war will add greatly to the traffics of the companies, and for heavier work and a greater use of railway transport the companies are entitled to a proper return. . . . The railway companies can regard the outcome with a considerable degree of satisfaction, for legitimate interests have been safeguarded by their negotiators and conceded by the Treasury. At the same time the Government has made a business-like arrangement which can be defended in the light of day.

The Daily Telegraph.—This [the average of 1935-36-37] will be generally recognised as a reasonable provision, for in computing a minimum figure it would be doing less than justice to the stockholders to include, for example, such a year as 1938, the worst but one (from the railway point of view) in modern times. . . . In anticipation of such lessons as experience may bring, the present scheme has the merit of effecting a fair compromise between the claims of the stockholders and of the public, and of giving the railway managements a stimulus to economy without impairment of wartime efficiency.

The Financial Times.—The problem of the compensation . . . has been resolved by compromise, as was inevitable. The rail system has become in effect a national organisation, but while it has been sought to relate its operation as nearly as possible to commercial principles, the scheme as it stands bears the very clear imprint of the special relation in which the railways stand to the nation in the emergency.

The Daily Mail.—It is a fair scheme. Both the railway stockholder and the taxpayer have as far as possible received a square deal. Certainly there is no question of excessive payments to the railway companies. . . . But the vast traffic of war time will mean a boom to the railways. The railways will share in these benefits—as they are entitled to do. But so will the taxpayer—provided there is no serious dislocation through war damage. The public would also like to be assured that adequate provision has been made for the maintenance and replacement of rolling stock, so that the railways may be in a sound condition after the heavy wear and tear of the war.

Daily Express.—It is a very good settlement for the railways. . . . Why should the Government come along and prop up the railways in this most extravagant way? A private firm pays 60 per cent. Excess Profits Duty. If the railways earn more than the forty millions, there is nothing in the agreement to show that they will have to pay this duty. The Government must therefore give an assurance that they will be treated exactly the same as other businesses.

News Chronicle.—If the purpose of this profit-sharing is to make up for the ravages of wartime depreciation, this is not the right way to do it. A better way would be to allocate a sum at the end of the war which would restore the railways to a position where they could earn fair dividends. In the meantime, there is no case for allowing stockholders to benefit from increased wartime traffic.

Daily Herald.—So now we know something of what the Government means by equality of sacrifice, conscription of wealth and taking the profit out of war! It is going to allow the railway companies to earn enormously higher profits and dividends out of the wartime increase in traffic. . . . Indeed the stockholders look likely to do even better than the City's optimists had been hoping. . . . This might or might not be all very well as a peacetime bargain for buying the companies out. . . . Why should one section, the railway stockholders, be assisted by the Government to earn increased profit out of the war? . . . Those who buy railway ordinary or preference stocks . . . have no right whatever to demand compensation from the taxpayer.

The Star.—The railway companies have no cause to complain of the settlement. . . The agreement is couched in terms which almost ignore the plain reality that, under war conditions, the railways are practically bound to exceed very largely the figure fixed on the basis of the three picked years. . . . . The willingness of the Government to let the railways take half . . shows a confidence in national finance which is, to say the least of it, cheering.

The Economist.—It is not a question of compensating them [the undertakings] for loss of revenue, but of deciding how much of their increased earnings should go to the State, whose acts (chiefly that of going to war) are responsible for the railways' good fortune. . . . It is impossible not to conclude that the railways have been treated too generously. . . . The figure fixed for the guaranteed minimum is acceptable; so is the principle that in return for a guarantee the railways should hand over part of their present increased earnings. But the proportions they should retain and the maxima to which their revenues can rise have both been fixed too high. And it is deplorable that no protection seems to be interposed between the public interest in cheap transport and the railways' desire to earn a Standard Revenue which is no longer of more than historical significance.

The New Stateman and Nation.—On the whole . . . both sides have struck a fair bargain. . . . The agreement is probably the stepping-stone to nationalisation after the war. . . . It is a realistic as well as a just settlement. It would have been wicked if the Government, because it was paying the railways for Government traffic, had insisted on no raising of rates (as it did in the last war), for that would have meant a dishonest subsidy to the whole cost of living.

What the Provinces Say

The Scotsman.—On the whole, the agreement is generous to the railways, and especially to the transport board, whose traffics have been seriously affected by war conditions. Although the cost of the arrangement may appear to be less than that of the 1914 agreement, it has to be remembered that the Government is now to pay for the use of the railways at commercial rates, instead of using them free of charge. . . .

The Glasgow Herald.—It seems not improbable that under such a scheme the tendency to work for the individual company may gradually give way to arrangements for carrying out the work in hand in the most expeditious or the cheapest way possible, according as to whether speed or economy is the order of the day. If so there may emerge at the end of the control period a system which is near to the unification canvassed as long ago as 1920, when the existing amalgamation was being planned.

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The Fastest Runs in the World

Table B gives a list of the fastest booked railway runs in the world. The fastest run of any description in the world was of the German Fliegende Kölner diesel unit, timed in the eastbound direction at 83·3 m.p.h. from Hamm to Hanover, and one of the new cross-country units was a close second, running at 83·2 m.p.h. from Bielefeld to Hamm, westbound. Of ten diesel-operated runs timed at more than 80 m.p.h. from start to stop, Germany claimed eight, including the first five; the other two were of the American City of Denver service of the Union Pacific. The City of Denver is timed over a total of 23·8 miles westbound and 45·4 miles eastbound at pass-to-pass speeds ranging from 90 to 102 m.p.h. There were 33 runs in Germany timed with diesel units at over 75 m.p.h., and 17 in the U.S.A., making a total of 50; the fastest run with diesel power in any other country was in France, at 73·0 m.p.h. from Nancy to Paris. The list of

high-speed runs with steam is headed by two on the competing American services between Chicago and the Twin Cities of St. Paul and Minneapolis. The Hiawatha of the Milwaukee Road no longer maintained unchallenged supremacy with its 75·8 m.p.h. run from Sparta to Portage, as the 400 of the Chicago & North Western had drawn level with a run at the same speed from Chicago to Racine. Strictly, Racine was a conditional stop, but was invariably made within a working allowance of 71 min. for the 85·0 miles from Chicago to Milwaukee. This is the last as well as the first appearance of this run in the steam section of the table, as a diesel-driven train has now replaced the steam train on this service. Like the Hiawatha, which on its westbound journey is booked to cover 57·6 miles from Tower A20 to Lake pass-to-pass in 38 min., at an average of 90·9 m.p.h., the 400 is allowed only 19 min. for the 28·4 miles between Highland Park and Kenosha (89·7 m.p.h.), including an average of 94·0 m.p.h. over the 15·7 miles from Waukegan to Kenosha.

Next in the steam section come the two Brussels—Bruges runs at 74·9 m.p.h. of the Belgian 60-min. Brussels—Ostend service; with other American and Belgian runs, the 71·9 m.p.h. run of the L.N.E.R. Coronation had to take fourteenth place, even with steam, and the 71·4 m.p.h. of the G.W.R. Cheltenham Flyer—the fastest railway run of any description in the world as recently as the autumn of 1932—sixteenth place with steam. If diesel and electric propulsion be included, the Coronation now ranks as No. 94, and the Cheltenham Flyer as No. 100 in the list. It is very remarkable to find heavy sleeping car expresses, such as the Broadway Limited and Liberty Limited of the Pennsylvania, and the Twentieth Century Limited of the New York Central, not to mention the new " all-coach " Trail Blazer and Pacemaker, all making start-to-stop runs at over 70 m.p.h., as part of the 28 steam runs at over 70 m.p.h. that appear in the list. On the other hand, it is somewhat of a tragedy that France, which for so long took a lead in railway speed, is unrepresented in this list of steam runs at over 68 m.p.h.; the Sud Express, which in 1938 run from Poitiers to Angoulême at 70·1 m.p.h. with steam haulage, has since been turned over to electric haulage. In the electrical section of this table the lead is now taken by Italy, which has the five fastest runs, by high-speed electric units between Rome and Naples, and Milan and Bologna. Considerable strides have been made by electric traction in that it is now possible to table fourteen electrically-hauled runs at over 70 m.p.h., including such heavy express trains on the Pennsylvania as the Congressional and the Broadway Limited, but steam is still well ahead of electricity in the highest ranges of speed.

Aggregate Speed Mileages

Table C shows the aggregate high-speed mileages of individual railway companies, and in this there have been

TABLE B—THE FASTEST SCHEDULED RUNS IN THE WORLD, SUMMER, 1939

Country	Railway	Train	From	To	Distance	Time	Speed	No. of runs daily
Diesel Traction (over 75 m.p.h.)					miles	min.	m.p.h.	
Germany	State	Fliegende Kölner	Hamm	Hanover	109·7	79	83·3	1
,,	,,	FDt 520	Bielefeld	Hamm	41·6	30	83·2	1
,,	,,	Fliegende Kölner	Berlin (Zoo)	Hanover	157·9	114	83·1	1
,,	,,	,, ,,	Hanover	Hamm	109·7	80	82·3	1
,,	,,	FDt 520	Hanover	Bielefeld	68·0	50	81·6	1
U.S.A.	Union Pacific	City of Denver	Grand Island	Columbus	62·4	46	81·4	1
Germany	State	FDt 51	Hanover	Berlin (Zoo)	157·9	117	81·0	1
U.S.A.	Union Pacific	City of Denver	North Platte	Kearney	95·0	71	80·3	1
Germany	State	FDt 52	Berlin (Zoo)	Hanover	157·9	118	80·3	1
,,	,,	FDt 584	Halle	Magdeburg	53·5	40	80·2	1
,,	,,	FDt 45	Berlin (Schles.)	Breslau	204·7	154	79·7	1
,,	,,	FDt 231	Bremen	Hanover	76·0	58	78·6	1
,,	,,	FDt 551 & 572	Berlin (Anhalter)	Leipzig	102·1	78	78·5	2*
U.S.A.	Santa Fe	Super Chief & El Capitan	La Junta	Dodge City	202·4	155	78·3	2
Germany	State	FDt 583	Magdeburg	Halle	53·5	41	78·3	1
,,	,,	FDt 45	Breslau	Oppeln	50·8	39	78·1	1
,,	,,	Fliegende Hamburger	Berlin (Lehrter)	Hamburg	178·2	137	78·0	1
U.S.A.	Burlington	Zephyr	East Dubuque	Prairie du Chien	54·6	42	78·0	1
,,	Union Pacific	" City " Services	North Platte	Grand Island	137·2	106	77·7	3
Germany	State	Fliegende Hamburger	Hamburg	Berlin (Lehrter)	178·2	138	77·4	1
,,	,,	FDt 45 & 46	Oppeln	Heydebreck	25·8	20	77·4	2*
U.S.A.	Union Pacific	City of Denver	Julesburg	North Platte	81·2	63	77·3	1
Germany	State	FDt 52 & 232	Hanover	Bremen	76·0	59	77·3	2*
U.S.A.	Burlington	Denver Zephyr	Galesburg	Aurora	124·6	97	77·1	2*
Germany	State	FDt 22 & 23	Berlin (Lehrter)	Hamburg	178·2	39	76·9	2*
U.S.A.	Santa Fe	El Capitan	Dodge City	Hutchinson	120·2	94	76·7	1
Germany	State	FDt 571	Leipzig	Berlin (Anhalter)	102·1	80	76·6	1
,,	,,	FDt 515 & 520	Magdeburg	Halle	53·5	42	76·4	2*
U.S.A.	Santa Fe	Super-Chief	Dodge City	La Junta	202·4	159	76·4	1
Germany	State	FDt 25 & 28	Berlin (Lehrter)	Hamburg	178·2	140	76·3	2*
,,	,,	FDt 46	Breslau	Berlin (Schles.)	204·7	161	76·2	1
,,	,,	FDt 33	Halle	Berlin (Anhalter)	100·4	79	76·2	1
U.S.A.	Burlington	Zephyr	North La Crosse	Miner	26·6	21	76·0	1
Germany	State	FDt 459	Liegnitz	Breslau	40·5	32	75·9	1
U.S.A.	Santa Fe	Super-Chief	Dodge City	Newton	153·1	122	75·3	1
Germany	State	FDt 33 & 49	Freiburg	Baden (Oos)	64·0	51	75·3	2
,,	,,	Fliegende Kölner	Hanover	Berlin (Zoo)	157·9	126	75·2	1
U.S.A.	Union Pacific	City of Denver	Kearney	North Platte	95·0	76	75·0	1
,,	,,	,,	Sterling	Julesburg	57·5	46	75·0	1

* In both directions of running

Country	Railway	Train	From	To	Distance	Time	Speed	No. of runs daily
Steam Traction (over 68 m.p.h.)					miles	min.	m.p.h.	
U.S.A.	Milwaukee	Morn. Hiawatha	Sparta	Portage	78·3	62	75·8	1
,,	Chicago & N.W.	The 400	Chicago	Racine	61·9	49	75·8	1
Belgium	National	2 runs	Brussels (Midi)	Bruges	57·4	46	74·9	2
U.S.A.	Milwaukee	Hiawatha	New Lisbon	Portage	43·1	35	73·9	2
,,	Pennsylvania	Detroit Arrow	Englewood	Fort Wayne	140·9	115	73·5	1
Belgium	National	2 runs	Bruges	Brussels (Midi)	57·4	47	73·3	2
U.S.A.	Milwaukee	Chippewa	Deerfield	Milwaukee	61·0	50	73·2	1
,,	Pennsylvania	Detroit Arrow	Fort Wayne	Englewood	140·9	116	72·9	1
Germany	State	FD 21	Hamburg	Berlin (Lehrter)	178·2	147	72·7	1
U.S.A.	Pennsylvania	Trail Blazer	Plymouth	Fort Wayne	64·1	53	72·6	1
Great Britain	L.N.E.R.	Coronation	King's Cross	York	188·2	157	71·9	1
Germany	State	FD 26	Berlin (Lehrter)	Hamburg	178·2	149	71·8	1
Great Britain	G.W.R.	Cheltenham Flyer	Swindon	Paddington	77·3	65	71·4	1
U.S.A.	Pennsylvania	Liberty Ltd.	Plymouth	Fort Wayne	64·1	54	71·2	1
,,	New York Central	20th Century	Toledo	Elkhart	133·0	113	70·6	1
,,	Illinois Central	Daylight	Kankakee	Gibson City	54·1	46	70·6	1
,,	Pennsylvania	Broadway Ltd.	Englewood	Fort Wayne	140·9	120	70·5	1
,,	Milwaukee	Hiawatha	Milwaukee	Portage	92·9	78	70·5	1
Great Britain	L.N.E.R.	Silver Jubilee	King's Cross	Darlington	232·3	198	70·4	2*
U.S.A.	Milwaukee	Hiawatha	New Lisbon	La Crosse	59·8	51	70·4	1
,,	,,	,,	Portage	Watertown	46·9	40	70·4	1
,,	,,	,,	La Crosse	Sparta	24·6	21	70·3	1
,,	New York Central	20th Century & Pacemaker	Elkhart	Toledo	133·0	114	70·0	2
,,	Milwaukee	Hiawatha	Portage	New Lisbon	43·1	37	69·9	1
,,	Burlington	Overnite Denverite	Chicago	Galesburg	162·4	140	69·6	1
,,	Pennsylvania	Broadway Ltd.	Fort Wayne	Englewood	140·9	123	68·7	1
,,	,,	Golden Arrow	Plymouth	Fort Wayne	64·1	56	68·7	1
,,	Reading	Crusader	West Trenton	Jenkintown	21·7	19	68·5	1
Great Britain	L.N.E.R.	West Riding Ltd.	King's Cross	Leeds	185·7	163	68·4	1
U.S.A.	Big Four	New York Express	Granite City	Hillsborough	48·9	43	68·2	1
,,	Burlington	No. 6	Trenton	McCook	21·6	19	68·2	1
Great Britain	L.N.E.R.	West Riding Ltd.	Leeds	King's Cross	185·7	164	68·0	1
U.S.A.	Chicago & N.W.	The 400	Milwaukee	Chicago	85·0	75	68·0	1
,,	Milwaukee	Hiawatha	Chicago	Milwaukee	85·0	75	68·0	5*
,,	Pennsylvania	Liberty Ltd. & Trail Blazer	Gary	Plymouth	58·9	52	68·0	3*
Belgium	National	2 runs	Ostend Quay	Bruges	13·6	12	68·0	2
Electric Traction (over 68 m.p.h.)								
Italy	State	R 527	Rome	Naples (Mergellina)	130·5	108	72·5	1
,,	,,	R 525 & 527	Milan	Bologna	135·6	113	72·0	2
,,	,,	R 525	Rome	Naples (Mergellina)	130·5	109	71·8	1
,,	,,	R 528	Naples (Mergellina)	Rome	130·5	110	71·2	1
U.S.A.	Pennsylvania	Congressional	N. Philadelphia	Newark	76·0	64	71·2	1
Italy	State	R 524 & 528	Bologna	Milan	135·6	115	70·8	2
,,	,,	R 524 & 528	Florence	Bologna	60·2	51	70·8	2
,,	,,	R 524	Naples (Mergellina)	Rome	130·5	111	70·5	1
U.S.A.	Pennsylvania	Congressional & Broadway Ltd.	Newark	N. Philadelphia	76·0	65	70·2	2
France	National (S.W.)	Sud Express	Poitiers	Angoulême	70·1	60	70·1	1
U.S.A.	Pennsylvania	Congressional	Baltimore	Wilmington	68·5	59	69·7	1
Italy	State	R 525 & 527	Bologna	Florence	60·2	52	69·4	2
U.S.A.	Pennsylvania	2 runs	Elkton	Perryville	16·2	14	69·4	2
,,	,,	Senator	Newark	N. Philadelphia	76·0	66	69·1	1
,,	,,	2 runs	Elizabeth	Trenton	42·6	37	69·1	2
,,	,,	1 run	Newark	Trenton	48·1	42	68·7	1
,,	,,	5 runs	Baltimore	Wilmington	68·5	60	68·5	5
,,	,,	2 runs	Newark	N. Philadelphia	76·0	67	68·1	2

* In both directions of running

some interesting changes of position since 1938. The New York Central System, including its subsidiaries—the Michigan Central and the Big Four—has moved from third place to the top of the table, with 13,959 miles booked daily at over 60 m.p.h., and entirely with steam. The German State Railway, on the other hand, has moved from the fourth to the second place entirely with the additional mileage achieved by numerous new diesel units put on in May, 1939, which explains the exceptional aggregate of 5,050 miles at over 70 m.p.h. The Pennsylvania Railroad, first in 1938, takes third place in 1939, though with higher mileages in the latter than in the former year. The French National system has fallen from first to fourth by reason of the 1939 decelerations; next comes Holland, with Italy close after it, the former having moved up two places, and the latter seven. Seventh place is taken by the L.M.S.R. (fifth in 1938), which, despite 6,902 miles at over 60 m.p.h., has the curious distinction of only 223 miles at over 64 m.p.h., in a column in which twelve railways, the L.N.E.R. included, can show mileages ranging from 1,293 to 8,011.

A better estimate of individual railway enterprise, however, is afforded by Table D, which relates the high-speed mileage to the route mileage of each line, and this completely alters the relative positions. Mileage scheduled at over 60 m.p.h. daily is expressed as a percentage of route mileage. After the somewhat freak figure of the Chicago, North Shore & Milwaukee Railroad (1,128), an inter-urban high-speed line running on very fast point-to-point schedules, there comes Holland, where the Netherlands

Railways have established, with both diesel and electric propulsions, what must be the fastest and most frequent inter-urban transport throughout an entire country that can be found in any part of the world. The Dutch 400 is followed by the Pennsylvania—Reading—Seashore combination of the U.S.A. (a system chiefly carrying high-speed residential traffic between Philadelphia and the Atlantic coast), and then by the New York Central System and the Pennsylvania Railroad of America. The New York Central this year has just overhauled and is fractionally ahead of the Pennsylvania; both have the excellent figure of 126 as a measure of their speed enterprise. The only other railway in the three-figure range is the British L.M.S.R., whose mileage booked daily at 60 m.p.h. and over practically equals its route mileage. Belgium and Italy, with 84 and 72 respectively, have risen to good places, Italy now taking eighth place, as compared to twenty-first in 1938; but the size of the German and French national systems put them considerably further down the table.

National Speed Enterprise

Table E gives similar information to Table D, except that in Table E the speed characteristics of entire countries are set out, and speed mileage is expressed as a percentage of the total route mileage of all gauges in each country; the inclusion of figures representative of the years 1936, 1937, and 1938 gives a striking impression, also, of the extremely rapid development of speed in certain countries. Notably this is the case with Holland, which did not qualify to appear in this table in 1937, but by 1939 takes the top place, with a figure of 284·4, nearly four times that of her nearest rival, which is Belgium. In four successive years the Belgian percentages have been 16·7,

TABLE C—AGGREGATE HIGH-SPEED MILEAGE OF THE WORLD'S RAILWAYS.‡ SUMMER, 1939

Country	Railway	70 m.p.h. and Over	64 m.p.h. and Over	62 m.p.h. and Over	60 m.p.h. and Over
		miles	miles	miles	miles
U.S.A. ..	New York Central	399	3,759	6,995	13,959
Germany ..	State	5,050	8,011	9,981	13,614
U.S.A. ..	Pennsylvania	791	6,937	10,084	12,960
France ..	National ..	1,009	4,046	7,293	10,527
Holland ..	Netherlands ..	—	2,391	4,139	7,382
Italy ..	State	1,187	3,699	5,588	7,324
Gt. Britain	L.M.S.R. ..	—	223	1,394	6,902
U.S.A. ..	C.B. & Q. ..	1,043	3,824	4,577	5,858
,, ..	Union Pacific	1,400	2,189	2,741	3,993
,, ..	Santa Fe ..	502	1,564	2,723	3,749
,, ..	Chicago & N.W.	62	1,994	2,538	3,107
Gt. Britain	L.N.E.R. ..	653	1,293	2,103	2,896
U.S.A. ..	Milwaukee ..	450	1,401	2,110	2,888
Belgium ..	National ..	230	295	1,108	2,525
Gt. Britain	G.W.R. ..	77	313	1,083	2,187
U.S.A. ..	Chicago, N.S. & Milwaukee ..	—	106	337	1,540
,, ..	Rock Island ..	89	630	991	1,423
,, ..	B. & O. ..	—	120	563	1,418
,, ..	Penn.-Rdg.-Sea.	—	288	454	997
,, ..	Chicago & Alton†	—	281	653	965
,, ..	Wabash ..	—	215	493	957
,, ..	C.B. & Q. & C.R.I. & P.*	71	715	751	875
,, ..	Missouri Pacific	—	109	712	825
Denmark ..	State	—	76	424	709
U.S.A. ..	Southern Pacific	—	95	197	568
,, ..	Illinois Central	233	431	476	544
,, ..	Reading ..	—	298	460	534
,, ..	Erie	—	73	146	494
,, ..	Chicago & E.I.	—	333	417	473

* Joint diesel services. † Subsidiary of Baltimore & Ohio R.R. ‡ Table includes only railways having more than 450 miles scheduled at 60 m.p.h. and over

TABLE D—A COMPARISON OF HIGH-SPEED AND ROUTE MILEAGE¶ (INDIVIDUAL RAILWAYS): SUMMER, 1939

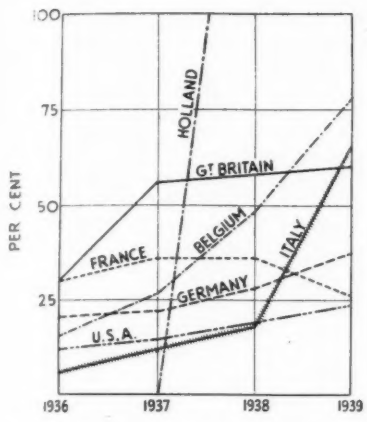
Country	Railway	Speed Mileage*	Route Mileage†	Per cent ‡
United States	Chicago North Shore & Milwaukee ..	1,540	136	1,128
Holland ..	Netherlands	7,382	1,845	400
United States	Pennsylvania—Reading—Seashore ..	997	412	242
,, ,,	New York Central System	13,959	11,070	126
,, ,,	Pennsylvania ..	12,960	10,286	126
Great Britain	London Midland & Scottish	6,902	6,870	100
Belgium ..	National	2,525	3,011	84
Italy	State	7,324	10,130	72
Great Britain	Great Western ..	2,187	3,781	58
United States	Chicago, Burlington & Quincy	6,296‖	10,849	58
Denmark ..	State	709	1,490	47
Great Britain	London & North Eastern	2,896	6,365	45
United States	Union Pacific ..	3,993	9,356	43
Germany ..	State	13,614	33,787	40
France ..	National	10,527	26,849	39
United States	Reading	534	1,408	38
,, ,,	Wabash	957	2,704	35
,, ,,	Baltimore & Ohio§ ..	2,383	7,363	32
,, ,,	Chicago & North Western	3,107	10,012	31
,, ,,	Atchison, Topeka & Santa Fe	3,749	13,477	28
,, ,,	Chicago, Milwaukee, St. Paul & Pacific	2,888	10,942	27
,, ,,	Chicago, Rock Island & Pacific	1,861‖	7,969	23
,, ,,	Missouri Pacific ..	825	10,745	8
,, ,,	Illinois Central ..	544	8,701	7
,, ,,	Southern Pacific ..	568	13,332	4

* Booked daily at 60 m.p.h. and over from start to stop.
† Standard 4 ft. 8½ in. gauge. ‡ Speed mileage as a percentage of route mileage. § Including the mileage of Chicago & Alton R.R. (a subsidiary of the B. & O. R.R.) ‖ Includes a half share of C.B. & Q. and C.R.I. & P. joint diesel mileage. ¶ Table includes only railways having moret han 500 miles scheduled at 60 m.p.h. and over

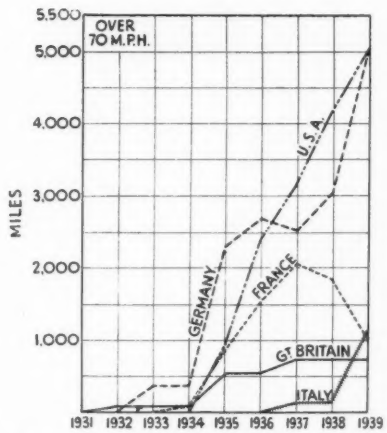
TABLE E—COMPARISON OF HIGH-SPEED AND ROUTE MILEAGE (COUNTRIES) SUMMER, 1936–1939

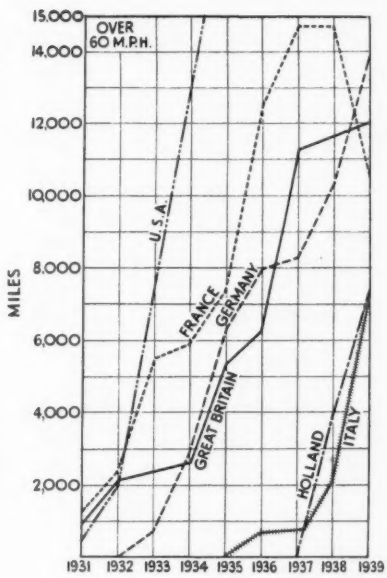
Country	Speed Mileage*	Route Mileage†	Speed Mileage as Percentage of Route Mileage			
			1936	1937	1938	1939
Holland	7,382	2,114	—	—	182·7	284·4
Belgium	2,525	3,209	16·7	26·1	49·0	78·7
Italy ..	7,324	11,383	6·5	12·5	18·7	64·4
Great Britain	12,016	20,121	30·5	55·8	58·0	59·7
Germany	13,614	36,256	21·8	22·7	28·2	37·5
France ..	10,527	40,348	31·0	36·4	36·2	26·1
United States	59,415	245,752	12·2	15·2	19·6	24·2
Denmark	709	3,326	5·8	22·3	19·9	21·3
Switzerland	150	3,677	2·8	2·8	4·1	4·1
Bohemia and Moravia	233	8,383	—	—	1·0	2·8
Poland ..	107	13,375	—	—	—	0·8
Canada	97	42,270	—	—	—	0·2

* Aggregate mileage of runs booked daily from start to stop at 60 m.p.h. and over. † All gauges



Comparison of high-speed and route mileage, 1936–1939, in various countries (see Table E)





Diagrams showing increase in aggregate mileage of runs scheduled at 60 m.p.h. and over (right) and 70 m.p.h. and over (above) in Great Britain, France, Germany, Italy, and the United States, 1931–1939

TABLE F—COMPARISON OF THE WORLD'S SCHEDULED HIGH-SPEED MILEAGE WITH DIESEL, STEAM, AND ELECTRIC OPERATION—SUMMER, 1939

Country	75 m.p.h. and Over	70 m.p.h. and Over	66 m.p.h. and Over	62 m.p.h. and Over	60 m.p.h. and Over
	miles	miles	miles	miles	miles
Steam-Operated					
United States ..	140	1,516	5,736	19,013	32,639
Great Britain ..	—	730	1,606	4,580	12,016
France	—	—	907	2,299	4,341
Germany ..	—	356	356	1,556	4,151
Belgium ..	—	230	257	1,108	2,525
Italy	—	—	—	103	205
Canada	—	—	—	—	97
Diesel-Operated					
United States ..	1,064	3,284	7,313	12,897	16,023
Germany ..	3,558	4,694	6,482	7,787	8,321
Holland	—	—	—	1,055	3,147
France	—	939	2,184	2,782	3,006
Italy	—	—	—	1,333	2,609
Denmark ..	—	—	—	424	709
Bohemia and Moravia ..	—	—	65	105	233
Poland	—	—	—	82	107
Electrically-Operated					
United States ..	—	250	3,185	7,531	10,753
Italy	—	1,187	1,852	4,152	4,510
Holland	—	—	1,792	3,084	4,235
France	—	70	245	2,212	3,180
Germany ..	—	—	83	638	1,142
Switzerland ..	—	—	—	—	150
Steam-operated totals	140	2,832	8,862	28,659	55,974
Diesel-operated totals	4,622	8,917	16,044	26,465	34,155
Electrically-operated totals	—	1,507	7,157	17,617	23,970
GRAND TOTAL ..	4,762	13,256	32,063	72,741	114,099
Steam haulage, per cent.	3	21½	27½	39	49
Diesel haulage, per cent.	97	67	50	37	30
Electric haulage, per cent. ..	—	11½	22½	24	21

26·1, 49·0, and 78·7; and even more rapid, in its later stages, has been the Italian advance from 6·5 in 1936 through 12·5 and 18·7 to 64·4 in 1939. Italy thus mounts from eighth place in 1938 to third in 1939. Great Britain, accelerating very slowly—by comparison—was first in 1937, second in 1938, and drops to fourth in 1939. France, first in 1936, takes sixth place in 1939, and is followed by the United States, where the immense aggregate route mileage of 245,752 inevitably pulls the percentage down.

Competition in Motive Power

The final table, F, shows the division of the high-speed mileage of various countries as between diesel, steam, and electric propulsion; and this table contains also the aggregate world mileages in all ranges of speed. The United States heads each division of this table. So far as Europe is concerned, Great Britain heads the list in steam-hauled high-speed services, with a three-to-one advantage over the nearest competitors (France and Germany); indeed, the British mileage of 12,016 scheduled with steam at 60 m.p.h. and over is more than the combined steam total of all the remaining countries in Europe. Germany is well ahead in diesel mileage; and Italy comes first with electricity, very closely followed by Holland. As to the proportions borne by steam, diesel, and electric propulsion in the grand totals, there have been no material changes since 1938. In the highest ranges of speed, the diesel engine practically monopolises the mileage, being responsible for 97 per cent. of the runs timed at over 75 m.p.h.; but as the speed falls, the diesel percentage also falls rapidly, being only 67 per cent. at 70 m.p.h. and over, and 30 per cent. at 60 m.p.h. and over. At the speed last-mentioned, steam is still responsible for roughly half the total mileage, and there are certainly no signs as yet of steam being put out of action as an agency of high-speed railway transport. Electricity reaches its maximum at 62 m.p.h. and over, in which range it is responsible for 24 per cent. of the runs, but the proportion falls to 21 per cent. at 60 m.p.h. and over. In conclusion, warm acknowledgement is due to Mr. L. Burow for detailed tables of the fastest runs on the mainland of Europe, and to Mr. E. Crickmay, of New York, for similar information relative to North America, which have formed the basis of the foregoing statistical analysis.

XUM

THE SMOKEBOX OF STREAMLINED ENGINES*

By E. D. TRASK, Chairman, Locomotive Running Superintendent's Committee, L.N.E.R.

THE introduction of the three-cylinder engines of the L.N.E.R., and especially the streamlined engines, necessitated considerable alteration to the design of the smokebox although many of the actual fittings remain much the same. The most noticeable change between the original Pacific engines and the later streamlined ones, which immediately catches the eye of even non-railwaymen, is that the familiar handles and hinges on the smokebox front are no longer to be seen. This is due to the fact that the whole of the smokebox proper on this and on certain other classes of engines is enclosed in a streamlined casing. Actually the smokebox door, although not visible, is very similar to that fitted on engines which are not streamlined, except that it is not completely circular in shape, the sloping front of the engine having the effect of cutting off a small part of the smokebox in front of the chimney, and the door is consequently flat along its upper edge. The streamlined casing at the front of the smokebox consists of two large hinged doors, and in order to reach the smokebox, these have to be opened by means of mechanical gearing actuated by a detachable crank handle. The crank handle is positioned so that it can be used by a man from ground level. The gears, which can be seen in Fig. 1, and are also visible in the first of the accompanying photographic reproductions, Fig. 3, are designed so that they work the top and bottom doors simultaneously. When the doors are fully open they cause the locomotive to have some resemblance to a huge crocodile with wide open jaws. When the streamlined casing doors have been fully opened they extend forward from the engine in a horizontal position and free access to the smokebox door itself is then gained.

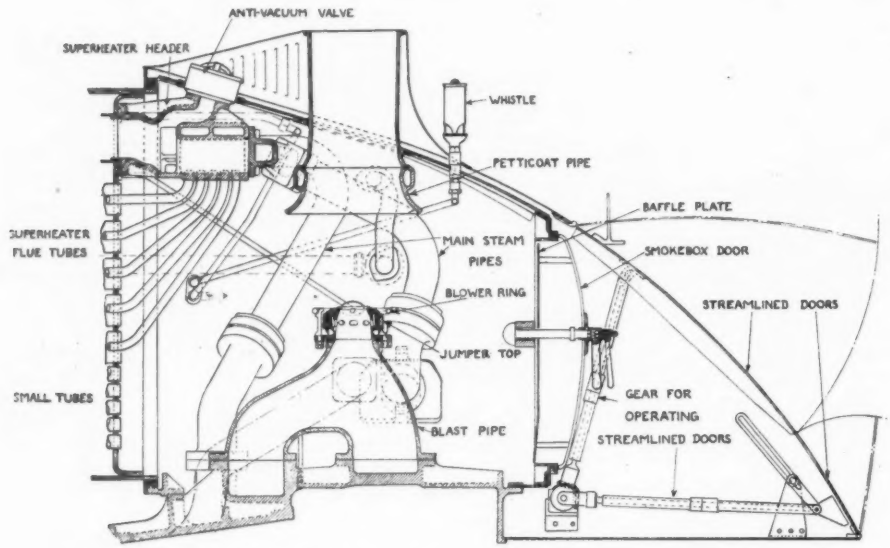


Fig. 1—Longitudinal section of smokebox—"A 4" streamlined Pacific engine

When the smokebox door is opened by means of operating the familiar handles previously referred to, it swings outwards on a hinge and the interior of the smokebox can then be seen. The illustration, Fig. 3, on page 221, gives a good impression of the appearance of the front of an engine when both the streamlined casing and the smokebox door are open. Within the smokebox there are many fittings, but the most important one is the blast pipe, and here a modification has been made as compared with the previous design on Pacific engines. The fittings which are most prominent in the illustration, Fig. 4, are the blast pipe, on the top of which is the "jumper" blast pipe top surmounted by a blower ring. The small pipe connection to the latter can be seen passing towards the right in the same illustration. Branching off from the blast pipe and seen on the left side is a connecting pipe for the exhaust steam injector. The lower

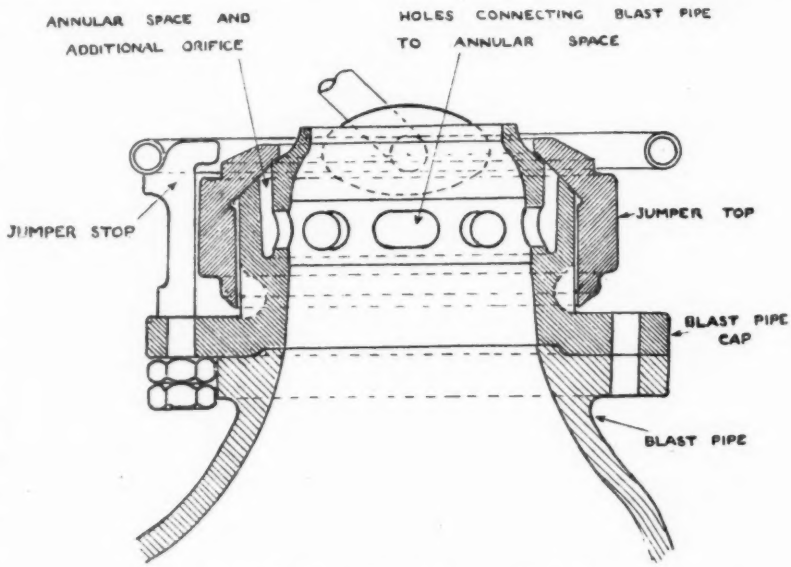


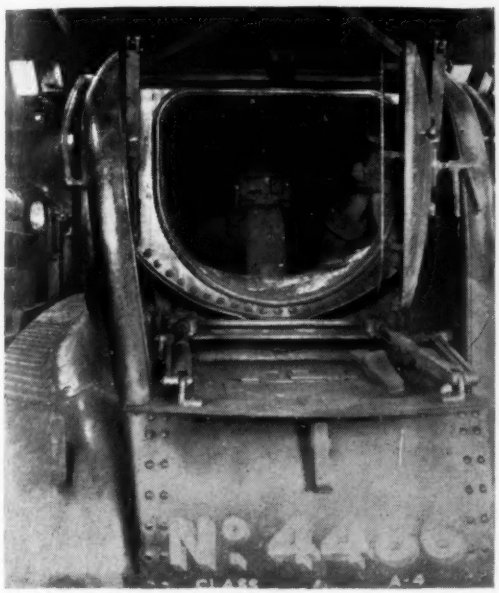
Fig. 2—Cross section of jumper blast pipe

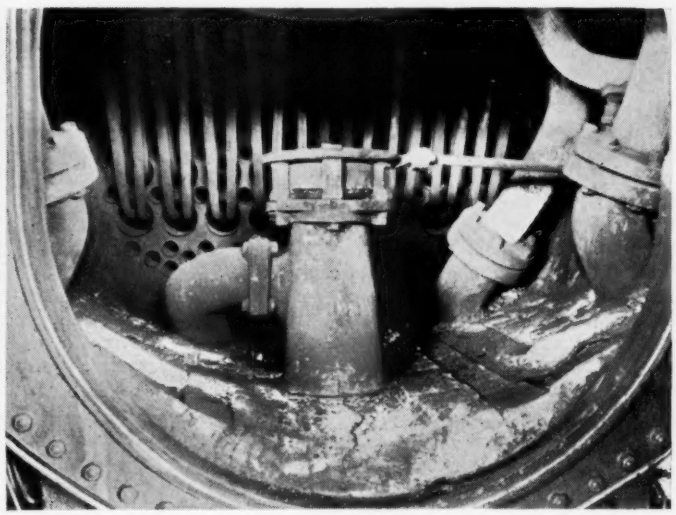
* Reproduced by permission from the *London & North Eastern Railway Magazine* for October, 1939

portions of the three main pipes conveying steam to the cylinders are visible and their flanged connections to the extensions leading to the cylinders are immediately above the base of the smokebox itself. In the background the vertical tubes, which are clearly visible, comprise some of the lower portions of the superheater elements, which turn into the large flue tubes. In the right-hand top corner there will also be noticed a large pipe passing from the side of the smokebox towards the centre. This pipe conveys the exhaust from the vacuum ejector to the chimney. The portion of the pipe visible is elbow-shaped, and at its extremity there is a small connection for the drip pipe which carries away condensate collected in the pipe.

It is easily understood that when a locomotive is starting or ascending an incline with a heavy train it is exerting its maximum effort, which means that a great quantity of steam is being used in the cylinders. All this steam must be exhausted through the blast pipe, the orifice of which must be of sufficient size to allow the release of this maximum quantity of steam without causing considerable back pressure. Back pressure is actually the pressure in the exhaust steam, and constitutes a resistance against which the engine has to work, so that the higher the back pressure the less will be the power of the engine, and conversely the lower the back pressure the greater the power. While the orifice of the blast pipe must be of ample size to allow the free passage of a large quantity of steam, it must also be of such a size that an exhaust sufficiently sharp to create adequate vacuum to draw the fire will occur when the engine is working normally, when there is a small quantity of steam passing.

It is, therefore, desirable that there should be a large orifice when the engine is working hard and a small one when it is working normally. On the " A4 " class engines this is achieved by what is known as a " jumper " blast pipe cap. This arrangement, which is shown in section in Fig. 2, consists of a blast pipe of the usual type with a blast pipe cap bolted on to its upper end. This cap has an orifice which is the smaller of the two sizes required, *i.e.*, for normal conditions. Around this cap is placed a flanged ring, the flange resting on the top of the cap and sealing an annular space cast in the blast pipe cap. There is communication between the inside of the blast pipe cap and this annular space by means of a number of holes placed at regular intervals round the cap. When the engine is working the exhaust steam passes through these holes into the annular space, but under normal conditions the pressure in this steam is not sufficient to lift the " jumper " ring. If, however, the engine is working heavily, the pressure of the exhaust steam increases until it is sufficient to raise the ring. When this occurs, and the flange of the ring is raised, the annular space is unsealed, allowing the exhaust steam to escape through the additional opening. In this way the normal orifice of the blast pipe cap is augmented by the area of the annular opening uncovered by the flange of the ring, and consequently the steam is allowed to escape more freely and excessive back pressure is avoided. The actual distance the " jumper " ring lifts is determined by a fixed stop.





Above (Fig. 4)—Interior of lower portion of smokebox. Left (Fig. 3)—Front end of an " A4 " streamlined Pacific engine with streamlined casing and smokebox door open

In Fig. 1, which gives a sectional view of the whole of the smokebox, the various other fittings may be seen.

Directly above the blast pipe is the petticoat pipe, which is really a downward extension of the chimney. It is a bell-shaped casting, and the exhaust steam from the blast pipe enters it and draws with it the hot gases from the fire which reach the smokebox by way of the boiler tubes. The action of the exhaust steam entering the petticoat pipe and chimney creates a partial vacuum in the smokebox, and it is of the utmost importance that the smokebox should be perfectly airtight, so that the partial vacuum shall not be destroyed by any inrush of air, for it is upon the draught caused by this vacuum that the proper burning of the fire depends. The six exhausts to every revolution of the wheels on three-cylinder engines naturally tend to give a more constant degree of vacuum than in the case of two-cylinder engines with only four exhausts per revolution, and thus it provides a steadier draught on the fire.

In order that the enginemen can maintain the necessary draught on the fire when the engine is standing or running with steam shut off, a blower ring is fitted round the top of the blast pipe. This ring is perforated by a number of small holes, and, by operating a valve in the cab, steam is allowed to escape through them and up through the petticoat pipe and chimney, and in so doing it fulfils the same function as the exhaust steam issuing from the

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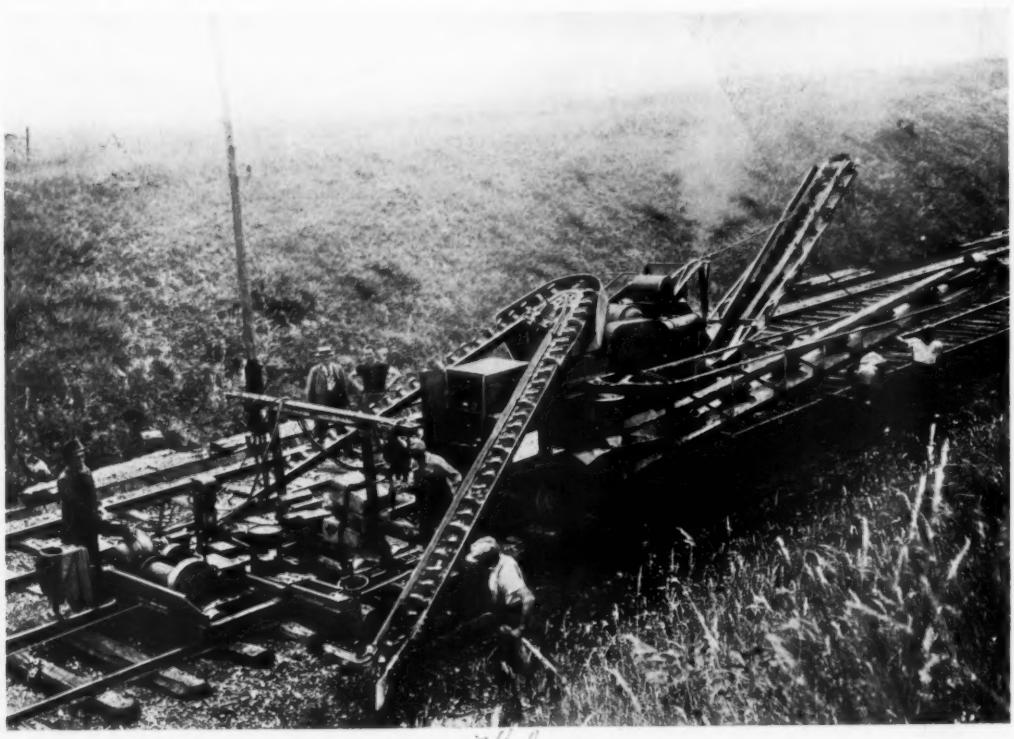
blast pipe. Around the petticoat pipe an annular cavity is cast, and this receives the exhaust steam and air from the vacuum brake ejector on the engine and allows it to escape through a number of holes into the chimney, and thence to the atmosphere. Behind the petticoat pipe and fixed to the front of the tubeplate of the boiler is the superheater header. To it is attached the anti-vacuum or snifting valve, which, when steam is shut off, opens and admits air into the superheater header. On engines which are not streamlined the cover of this valve may usually be seen on the top of the smokebox close behind the chimney, but on the streamlined engines it is enclosed in the fairing or streamlined casing behind the chimney.

Inside the smokebox are also the three main steam pipes, one for each cylinder, and these carry the steam from the superheater header to the steamchest, and thence to the cylinders. The pipes are of ample size and are designed without any sharp corners to give free passage of the steam. The pipes are kept as close as possible to the sides of the smokebox so as not to interfere with the free flow of the gases from the boiler tubes to the petticoat pipe and chimney. The customary position for the whistle on any locomotive is in the near vicinity of the cab, but with streamlined engines there is insufficient room at this point owing to the boiler top being closer to the loading gauge, consequently the whistle on these engines is now placed immediately in front of the chimney and at a lower level.

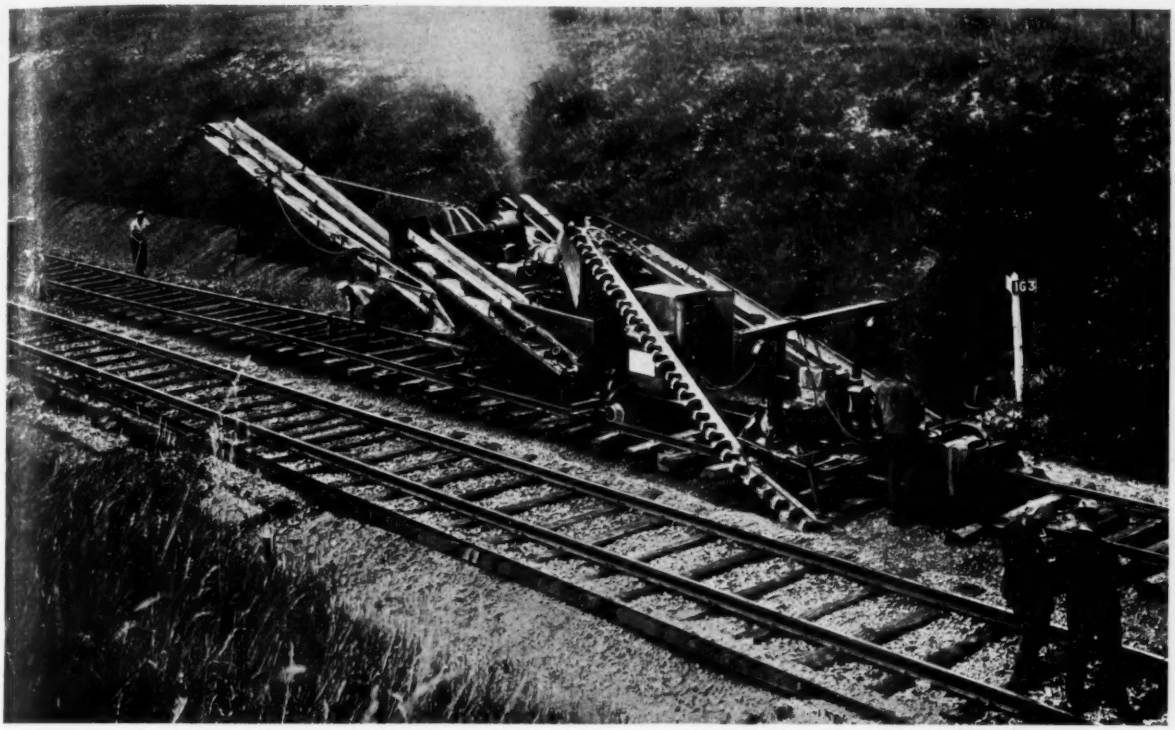
NOVEL BALLAST SCREENING MACHINE

A bucket-dredger type of portable plant in use on French railways for rapidly cleaning ballast in the track

A CLEVERLY-CONTRIVED machine has been introduced by Drouard Frères, which is capable of removing, screening, and replacing in one night the ballast in a quarter of a mile of track without breaking the road or occupying more than the one track on which it works. This machine consists of two parts or trucks running on, but capable of being removed at short notice from the track. The larger truck, mounted on the standard type of *diplory*, or bogie, as used for track work almost universally in France, carries a diesel-electric power plant, screener, two discharge belt conveyors and their adjustable frames, as well as a pivot securing the apex of a triangular frame carrying a chain-and-bucket ballast dredger. The smaller truck has a pair of transverse girders, fitted at each end with a jack or adjusting screw for raising or lowering the base of the triangular frame carrying the chain of buckets under the track. Also in this truck is an electric winch, taking current from the power plant on the larger truck, by means of which the whole machine can haul itself along with a wire rope anchored to a stake driven into the centre of the formation some distance ahead. As the ballast is excavated, the machine



Drouard ballast screening plant at work on a French railway. In front, the bucket dredger is removing the dirty ballast from under the track and depositing it on a vibrating screen whence the clean ballast passes to a moving belt which drops it into the four-foot way. The screenings fall on to another belt which throws them clear of the line, as seen in the picture on the opposite page



Drouard ballast screening plant showing clean ballast being deposited in four-foot and screenings on cutting toe

thus moves slowly forward, the track under it being temporarily supported on packings until the clean ballast is packed under it in rear.

When work is begun upon a new length of track, the ballast is removed by hand from between two adjacent sleepers down to formation level, and the dredger bucket chain with the base of the frame carrying it is threaded through the hole thus made under the track. To enable this to be done, the endless chain can be unbolted, and the base of the frame is detachable. When the chain has been connected up again, it runs round three main pulleys arranged in triangular form, a driven one at the apex on the top of and pivoted to the larger truck, and the other two loose ones at the ends of the base of the triangular frame and immediately below the jacks on the girders fixed across the smaller truck; the two lower pulleys together with the base of the frame and chain can be raised or lowered by means of the adjusting jacks. One of the side legs of the triangular chain runs in a channel, so that, when it revolves, its buckets or scrapers scoop out the ballast from under the track and force it up this channel to the apex, where it falls into a hopper discharging on to the vibrating screener.

The screener separates the large ballast from the dirt and fine chippings, and drops them into different discharge hoppers, through which they pass to two belt conveyors carried on adjustable arms projecting to the rear of the larger truck. The conveyor carrying the large, clean ballast is adjusted to discharge back on to the track, whereas the one conveying the dirt discharges at the side of the track, or elsewhere as required, both the height and direction of the conveyors being adjustable.

To remove the machine from the track, the larger truck is provided with a second set of wheels at right angles to the track and running on a light transverse frame resting on the track wheels. When the apex of the triangular frame is lifted off the pivot on the larger truck, that truck is then free to be run off the track sideways by means of the transverse wheels and frame. The dredger chain is again disconnected, and the two side legs of the triangular frame can then be separated at the apex and laid down, one on each side of the track, leaving the base of the frame and part of the chain it carries still under the track, but clear of traffic over it. The smaller truck can be lifted off the rails, and the whole process of removal from the track can be completed in about 15 min.

Signal Lights in German Austria

In the days of the independent Austrian Federal Railways, when ways and means of saving money were being explored, electric lighting of distant signals was installed on a large scale, using both accumulators and primary cells. In numbers of cases the light was made flashing, although this was not officially recognised in the signal rule book. Since absorption of the Austrian lines in the Reichsbahn, the whole question of lighting has been carefully investigated and it has been decided to abolish the flashing light as it was not used by the larger system at all. The fixed electric lights are in most cases regarded as giving a good enough indication for the time being, but not as good as that obtained with the Reichsbahn's standard propane gas equipment, which will, it appears, be substituted gradually on the Austrian sections as the signalling apparatus is brought up to the German State standard type. Although the Austrian signalling always followed the same general principles as that used on the former German lines, the apparatus was, on the whole, simpler. For instance, the Austrian double-wire point mechanisms often had no wire breakage locks.

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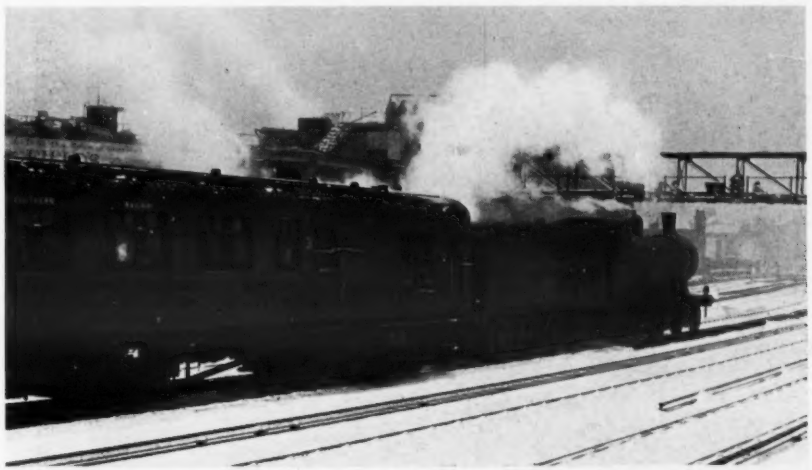
January Arctic Weather on the British Railways

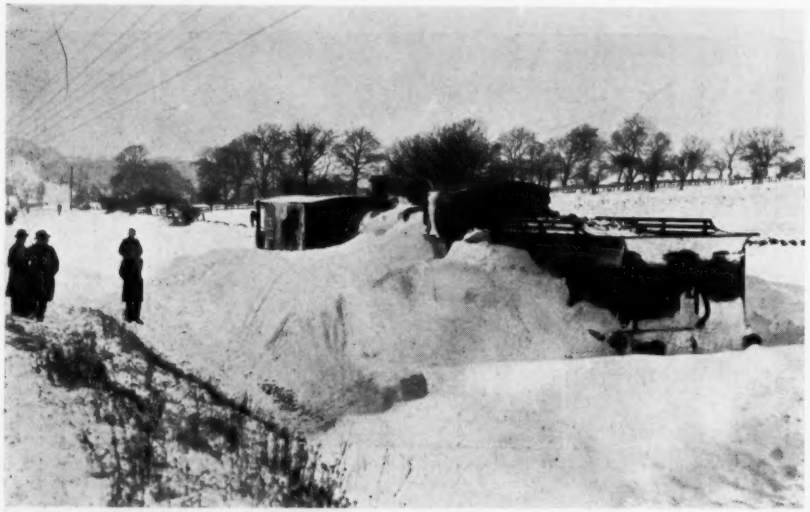
Snow plough clearing the main line of the L.M.S.R. near Beattock. Here trains were snowbound for several days

Clearing by hand the snowed-up line between Skipton and Colne, L.M.S.R. A train which left Manchester on a Sunday was not freed until three days later

Soldiers clearing the lines through a station where the snow was platform high. Despite the signals, all traffic was, of course, stopped



Steam-hauled electric train on the Southern Railway during the January frost which coated with ice the electric conductor rails



Freeing the locomotive of a train which was snowed-up for three days in the West Riding of Yorkshire on the Skipton—Colne line, L.M.S.R.

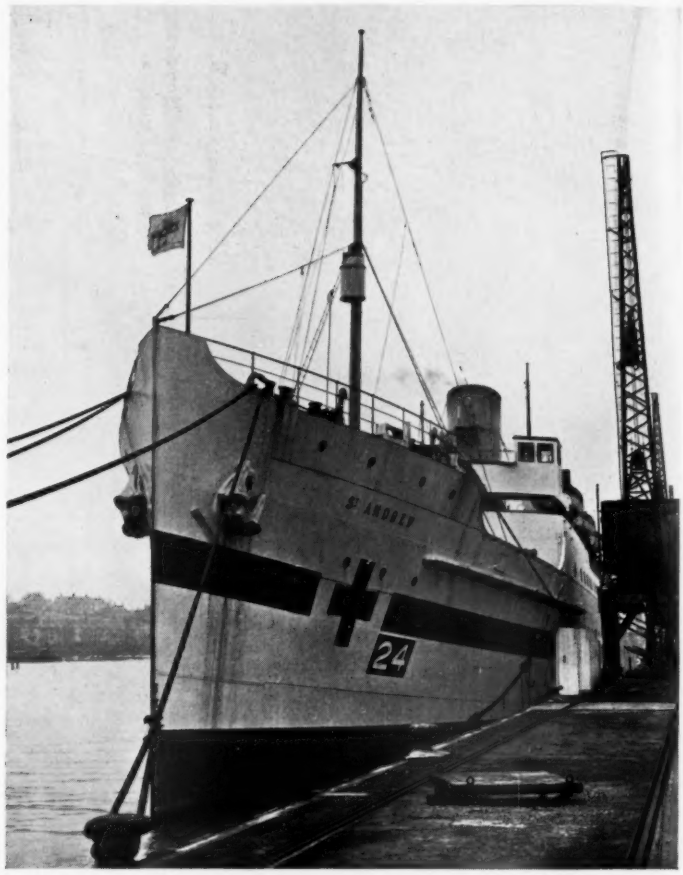
Some 2,000 soldiers and a snow plough were employed in clearing the Manchester—Sheffield main line of the L.N.E.R. where it crosses the Pennines

The severity of conditions during part of January on the West Coast main line of the L.M.S.R. A scene near Beattock summit

The snow plough at work on the L.N.E.R. Manchester—Sheffield line, where, as may be seen, overhead electrification is in progress

British Railways and the War—7

Right: The Fishguard-Rosslare oil-burning steamship "St. Andrew" in service at a southern port as a British hospital ship with accommodation for 300. The "St. Andrew," which was built in 1932 and has a gross tonnage of 2,702, is owned by the Fishguard & Rosslare Railways & Harbours Company, an associate of the G.W.R.



Below: The former Irish-Channel steamer "St. Andrew" as now converted for use as a hospital ship. Our illustration shows the dining saloon fitted out as an officers ward

RAILWAY NEWS SECTION

PERSONAL

Mr. L. H. K. Neil, who, as announced in THE RAILWAY GAZETTE of February 9, has been appointed Acting London City Manager, London & North Eastern Railway, began his railway career with the Great Eastern in the Chief Accountant's Department at Liverpool Street in 1908, where he remained for five years. He was then transferred to the department of the Goods Manager, and was sent out on the system for a period of 12 months to gain experience at the principal goods stations. Upon returning to head-

Mr. L. H. K. Neil

Appointed Acting London City Manager, London & North Eastern Railway

quarters Mr. Neil passed through various offices in the Goods Department, and upon the fusion of the Passenger and Goods Departments under a Traffic Manager, served in a number of offices dealing with passenger traffic. In 1915 Mr. Neil took a commission in a line regiment of the Territorial Army, and in 1917 was seconded to the Railway Transport Establishment. After serving at a number of *triages* and chief traffic offices in France, he went to the headquarters of the Directorate of Railway Traffic, from which he was demobilised in 1919 with the rank of Captain. After the Armistice Mr. Neil returned to the Department of the Commercial Manager of the Great Eastern Railway, and on completion of about 18 months in the Goods Rates Office, was in March, 1921, appointed Chief Assistant to the General Continental Agent of the G.E.R. in Paris. Following amalgamation he was appointed, in April, 1924, as the Agent of the London & North Eastern Railway in Brussels. In June, 1930, he returned to the headquarters of the Continental Department as Assistant to the Continental Traffic Manager, and from that date frequently deputised for the Continental Traffic Manager at the meetings of the International Union of Railways; he also attended the meetings of the European Timetable & Through-Carriage Conference. In 1935 he was Chairman of the Dutch section of the Continental Rail & Water Carriers' Conference, and from time to time represented the Continental Traffic Manager at meetings of the council of that body. In June, 1937, Mr. Neil was appointed Assistant Continental Traffic Manager, which position he now vacates to take up that of Acting London City Manager.

Mr. A. W. A. Chivers has been appointed a Director of the Electrical & Industrial Investment Co. Ltd. in place of Mr. Thomas Bower who has resigned. This company is a member of the British Electric Traction group.

Khan Bahadur Muzaffar Hussain, who has recently held the post of Director, Railway Board, has been appointed to officiate as a Member of the Railway Board, as from December 6 last. He was born on November 8, 1886, and was appointed to be an Assistant Engineer on the State Railways establishment in October, 1910. Promotion to the grade of Executive Engineer followed in October, 1918. He gained wide experience of both open line and construction work prior to his further promotion to officiate—at various times between 1932 and 1936—as Deputy Chief Engineer on the North Western system. In April of the latter year the Khan Bahadur was appointed officiating Divisional Superintendent of a senior division, having been confirmed as provincial permanent Deputy Chief Engineer in the January previously. His appointment as Director of Establishment, Railway Board, dates from April 15, 1938.

Sir John Forster has been appointed by the Ministry of Labour and National Service to be Chairman of the Railway Staff National Tribunal. The tribunal, which is the final deciding body in negotiations relating to wages, conditions of service, and so forth, consists of three members; one nominated by the railway companies, one by the railway trade unions, and a Chairman who, failing agreement, is appointed by the Minister. Sir John Forster, who is a barrister, is Deputy Umpire under the Unemployment Insurance Acts and a Chairman of the Industrial Court. He was Chairman of the Court of Inquiry appointed in 1937 in connection with the stoppage of the Central London bus services and afterwards acted as Chairman of the conferences which took place during 1938/9 between the London Passenger Transport Board, the Transport & General Workers' Union, and the Medical Research Council, on the health of London busmen. He was also a member of the Baillie Committee which was appointed in 1936 to enquire into the regulation of wages in the Road Transport Industry (Goods).

We regret to record the death at the age of 47 on February 8 of Mr. William Francis Campbell McClure, Assistant General Managing Director of Stewarts and Lloyds Limited. Mr. McClure was educated at Kelvinside Academy, Glasgow, and Fettes College, later going on to Trinity College, Oxford, where

Elliott [*& Fry*

The late Mr. W. F. C. McClure

Assistant General Managing Director, Stewarts and Lloyds Limited

he took his degree. On the outbreak of the 1914–1919 war, he joined the 11th Argyll and Sutherland Highlanders, serving with them the whole period of the war. He gained the Military Cross, with a Bar for gallantry on the field, and was twice wounded. He was demobilised with the rank of Major (acting Lieutenant-Colonel), and on leaving the Army joined Stewarts and Lloyds Limited in 1920. He took a course of intensive training in various branches of the firm, and was for five years in the Sales Department. He joined the board in 1930 and was director in charge of sales.

Lord Hyndley of Meads and Mr. Edmund L. Hann have been elected to the board of Guest, Keen & Nettlefolds Limited.

We regret to record the death at the age of 78 of Mr. G. G. Senior, O.B.E., who was Assistant Divisional Goods Manager (Northern Division), London & North Western Railway and L.M.S.R.

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from 1922 to 1924. He entered the service of the Lancashire & Yorkshire Railway in the 'eighties as a junior clerk at Barnsley, and for some years was employed at various stations in different capacities under the District (Yorkshire) Superintendent's office. In subsequent years he held such positions as Accountant, Liverpool District; Cashier & Assistant Superintendent, Liverpool Goods; Goods Agent, Bradford; Goods Superintendent, Hull & North-East Coast; and District Goods Manager, Manchester. He was created an officer of the Order of the British Empire in June, 1918. Mr. Senior was appointed Secretary for staff matters by the Railway Executive Committee in 1919, and was associated with all the important negotiations connected with wage improvements and standardisation of conditions of service. As a token of appreciation of his services in connection with staff arrangements, a presentation was made to Mr. Senior by the General Managers of the principal railway companies. He was also Secretary of the Central Wages Board. Previous to this R.E.C. appointment he had been District Goods Manager for the Lancashire & Yorkshire Railway at Manchester, and at the urgent request of his company he returned to Manchester in August, 1920, as Assistant to the General Manager. Mr. Senior became Assistant Divisional Goods Manager, Northern Division, London & North Western Railway, in January, 1922, and after little more than a year's service with the London Midland & Scottish Railway he retired to turn his attention to municipal affairs. He became Mayor of Eccles in 1933-4 and was representative for Eccles with the Lancashire County Council for some years.

Mr. George Sowerby, Estate & Rating Surveyor, North Eastern Area, London & North Eastern Railway, retired on January 31.

We regret to record the death on February 11 of Mr. A. S. Bailey, O.B.E., M.Inst.C.E., who was well known in the railway world, first as Chief Mechanical Engineer of the Bengal-Nagpur Railway and afterwards as Managing Director of the Metropolitan-Cammell Carriage, Wagon & Finance Co. Ltd. Mr. Bailey joined the Metropolitan District Railway at Lillie Bridge in October, 1883, as an Apprentice Engineer, and after three years there in various branches of the Locomotive Department, served a further period of apprenticeship in the locomotive workshops and drawing office of the London & South Western Railway at Nine Elms. Mr. Bailey was then appointed Locomotive Running Inspector, and eventually Superintendent in charge of all outside machinery throughout the railway. He left Nine Elms in 1895 to join the staff of Sir Alex. Rendel & Sons, Consulting Engineers, as their Chief Inspector in charge of locomotive building in Glasgow. In 1897 he was appointed Works Manager, and later Deputy Locomotive Superintendent, Jamalpur, East Indian Railway. While serving on this railway, he was in charge of the construction of the first locomotive completely built in India. He was then appointed Chief Mechanical Engineer of the Bengal-Nagpur Railway, and was responsible for the erection and administration of the shops, as well as the whole of the township at Khargpur, which was laid out on model lines and built in sections, the population then numbering 33,000 inhabitants. On leaving India in 1912, Mr. Bailey was appointed London Manager of Cammell Laird & Co. Ltd., and between then and 1914 made extended trips to South America, Australia, etc. In 1915 he was appointed General Manager of the National Projectile Factory (later the National Ordnance Factory) at Nottingham, which Cammell Laird & Co. Ltd. built and equipped for the Government for the manufacture of shells and guns. After the war, when the factory was purchased by Cammell Laird & Co. Ltd., it was converted for building railway rolling stock under Mr. Bailey's supervision. He became a Director of Cammell Laird & Co. Ltd. in 1921, and when controlling interests were acquired in other large rolling stock concerns, was appointed Managing Director of the combined undertaking, which comprised the following five factories: Cammell Laird & Co. Ltd., Nottingham; the Midland Railway-Carriage & Wagon Co. Ltd., Birmingham; the Leeds Forge Co., Leeds; the Newlay Carriage Works, Leeds; the Newlay Wheel Co. Ltd., Leeds. In 1929, Cammell Laird & Co. Ltd. and Vickers Limited, merged their rolling stock interests as the Metropolitan-Cammell Carriage, Wagon & Finance Co. Ltd., and Mr. Bailey was appointed Managing Director of the combine, which in the Vickers section included the Saltley works, the Oldbury works, the Old Park works, and the Patent Shaft & Axletree Co. Ltd., at Wednesbury, making a total of nine factories altogether in the group. He retired from that position in December, 1933. His success throughout his career was due in large measure to great organising ability combined with a human touch which enabled him always to get the best out of his staff. He will long be remembered by all those who had the privilege of working with him.

The late Mr. A. S. Bailey, O.B.E.

Chief Mechanical Engineer, Bengal-Nagpur Railway, 1904-1912. Managing Director, Metropolitan-Cammell Carriage, Wagon & Finance Co. Ltd., 1929-1933

Mr. Thomas Johnstone, who, as announced in our January 26 issue, has retired from the position of District Goods & Passenger Manager, Inverness, L.M.S.R., entered the service of the Caledonian Railway in 1896 as a station porter. After nearly three years at various stations he was transferred to the District Superintendent's office (Western Section), Glasgow. In 1901, Mr. Johnstone went to the General Superintendent's office, Glasgow, and in 1918 became Clerk-in-Charge of New Works, Rules & Regulations and Casualties & Offences sections. On the amalgamation of railways he was appointed Chief Clerk to the General Superintendent (Northern Division), L.M.S.R., Glasgow, and in June, 1931, became Outdoor Assistant to the General Superintendent. Mr. Johnstone was made District Goods & Passenger Manager, Inverness, in November, 1932. He represented the L.M.S.R. interests on the board of directors of the Highland Transport Co. Ltd. until his retirement, but resigned that office and has been succeeded by Mr. Charles J. Foster, the New District Goods & Passenger Manager, L.M.S.R., at Inverness.

Herr Alexander Wulff, Editor from 1924 to 1935 of the official journal of the Central European Railway Association, died on December 31 last. He was born in Westphalia in 1863, held various appointments on the Prussian State Railways, and was transferred to the Alsace-Lorraine lines in 1911. He returned to the Prussian system at Altona in 1914, became Divisional General Manager at Berlin in 1917, and retired in 1924, but then held a consultative position for a few years. After the death of his successor in the editorial chair in November, 1938, he occupied it once more for a few months. Herr Wulff was much esteemed in international railway circles and his passing will be widely regretted.

The death is announced of Major-General Sidney Seldon Long, who was Director of Supplies & Transport for some time in the war of 1914-1919. Major-General Long, who was 76, later joined the board of Lever Brothers Limited and was placed in charge of the company's transport.

Mr. Charles Edward Drewett, whose death at the age of 69 we announced in our issue of January 26, began his railway career in 1887 as a junior clerk in the Traffic Department of the London

& South Western Railway Company. The first duty he undertook was as relieving clerk at Portsmouth Arms station, on the Exeter—Barnstaple line. Mr. Drewett gained a considerable knowledge of traffic working as a result of being moved from place to place all over the L.S.W.R. system. Soon after the opening of the Lynton & Barnstaple Railway in 1899, Mr. Drewett was appointed Manager of the undertaking by the Chairman, the late Sir George Newnes, on the recommendation of the General Manager of the L.S.W.R., Sir Charles Scotter. Mr. Drewett subsequently became Manager & Secretary of the Lynton & Barnstaple Railway and held this position for 24 years. The railway was absorbed into the Southern Railway in June, 1923, and Mr. Drewett afterwards acted as Assistant to the Divisional Operating Superintendent for the Western District, and also wound up the affairs of the old company. To mark his services in maintaining and improving the efficiency of the Lynton & Barnstaple line, the directors of the company presented him with a silver salver. The funeral took place on January 24 at Axminster.

We regret to record the death on February 5 of Sir Matthew Wallace, Bart. Sir Matthew, who was 85 years old, worked on the Royal Commission on Transport for 1928 to 1929.

Mr. Charles Devey, formerly Assistant (Operating) to the District Goods Manager, Manchester, London Midland & Scottish Railway, died on January 29 at the age of 64. Mr. Devey began his career with the Lancashire & Yorkshire Railway at Bury in November, 1888. After a few years he was transferred to the Chief Goods Manager's Office, Hunt's Bank, Manchester, where he eventually became head of the Transit Department. He retained this position until the amalgamation of the Lancashire & Yorkshire and the London & North Western Railways in 1921. In June, 1924, he was transferred to the L.M.S.R. headquarters at Euston, where he specialised in transhipping working, of which he was considered an expert. Mr. Devey returned to Manchester in April, 1929, as Operating Assistant to the District Goods Manager, Hunt's Bank, Manchester, and retired from this position in August, 1937. The funeral took place on February 2 at Anfield, Liverpool.

Mr. G. S. Lindgren, of the Railway Clerks' Association, has been elected Chairman of the London Trades Council.

The death has occurred at sea, while in command of the *Lady Nelson*, of Captain Thomas Roy Coffin, Commodore of the Canadian National Steamships fleet.

CANADIAN PACIFIC EXPRESS COMPANY

Mr. J. E. Coulter, General Manager, has been appointed Vice-President & General Manager.

Mr. W. H. Plant, Comptroller, and Mr. John Blackhall, Treasurer, have been appointed Vice-Presidents. They will continue to hold the positions of Comptroller and Treasurer respectively.

Mr. A. R. Kerr has been appointed Assistant Manager of the Foreign Department.

We have to record the death on January 28 at the age of 56 of Mr. Benjamin Dawson Porritt, Director of Research, Research Association of British Rubber Manufacturers.

We regret to announce the death at the age of 75 of Colonel James Ramsey. Colonel Ramsey was at one time a Director of the Canadian National Railway Company.

Mr. A. J. Forshew, who since May, 1939, has been serving in a liaison capacity as between the railways and the Ministry of Food—prior to the war the Food (Defence Plans) Department of the Board of Trade—was entertained last week at a farewell luncheon party to mark his impending retirement. His hosts were Mr. Frederick Smith (Director of Food Transport), Mr. D. R. Lamb (Deputy Director), Mr. F. J. H. Corbyn (Assistant Director), and other colleagues in the department of the Director of Food Transport. In proposing the health of their guest, Mr. Smith said he was delighted to have that opportunity of testifying to the value to the department of Mr. Forshew's services, particularly in the months preceding the war, when his knowledge and experience were used to the best advantage in the formulation of plans which were subsequently put into effective operation. In responding, Mr. Forshew expressed the pleasure he had experienced in serving under Mr. Frederick Smith and with the other members of the staff of the Directorate, and said he would be happy at any time to rejoin the department should emergency necessitate his further assistance.

Mr. Forshew, who retired from the service of the L.M.S.R. on June 30, 1939, was born in July, 1878, and joined the staff of the former London Chatham & Dover Railway at the age of 14. After a few months, however, he entered (in February, 1893) the service of the London & North Western Railway and gained a varied and extensive experience at goods depots and in commercial representation. From September, 1914, he performed outdoor duties (goods and traffic) on the staff of the District Traffic Superintendent, Abergavenny, until August, 1918, when he was transferred to the personal staff of the Outdoor Goods Manager at Euston. Subsequently he organised the statistical section of the Chief Goods Manager's Department of the L.M.S.R. In January, 1928, he became head of the station working section and, in 1935, Deputy Assistant (Station Working), L.M.S.R. He prepared a text book on "Station Working" for the L.M.S.R. School of Transport, Derby, and in May, 1939, was seconded to the Food (Defence Plans) Department of the Board of Trade as resident assistant to the Railway Liaison Officer (Mr. F. A. Pope), and has continued in that capacity with the Ministry of Food.

COLONIAL OFFICE APPOINTMENTS

The Secretary of State for the Colonies has recently approved the following appointments:—

Mr. E. G. Brown, District Engineer, to be Senior District Engineer, Federated Malay States Railways.

Mr. A. W. Maile, Telegraph Inspector, Posts and Telegraphs Department, Gold Coast, to be Telegraph Engineer, Railway Department, Sierra Leone.

Mr. B. W. Turner-Smith, Works Manager, to be Locomotive (Carriage and Wagon) Superintendent, Trinidad Government Railway.

SOUTH AFRICAN STAFF CHANGES

Mr. W. Heckroodt, System Manager, Pretoria, has been appointed as understudy to the Chief Accountant.

Mr. C. H. Hamilton, O.B.E., System Manager, Kimberley, to be System Manager, Pretoria.

Mr. G. H. Dawson, System Manager, Windhoek, to be System Manager, Kimberley.

Mr. D. H. C. Du Plessis, Superintendent (Parliamentary), to be System Manager, Bloemfontein.

Mr. J. Rogan, Superintendent (Operating), Johannesburg, to be System Manager, Windhoek.

INSTITUTE OF TRANSPORT LUNCHEON

Lord Stamp, Chairman and President of the Executive of the London Midland & Scottish Railway, was the speaker at the monthly luncheon of the Institute of Transport held at the Charing Cross Hotel on February 12. His address is summarised on page 230. Among those present at the luncheon were:—

Messrs. W. A. Agnew, T. E. Argile (Member of Council), Lord Ashfield (Past President), Mr. M. F. Barnard, Colonel C. F. Birney, Messrs. F. G. Bristow, G. H. Brooks (Member of Council), Sir Leonard Browett, Messrs. R. Carpmael (Member of Council), A. L. Castleman, R. E. Charlewood, E. A. Clear, H. M. Cleminson, B. W. C. Cooke, Lt.-Colonel F. A. Cortez-Leigh, Mr. Frank W. Crews (Assistant Secretary), Sir Arthur Eborall, Messrs. H. W. Elliott, W. J. Elliott, G. Ellson (Member of Council), G. D. R. Ellson, N. D. Fawkner (Member of Council), T. Firth, Kenneth E. Garcke, Sidney E. Garcke (Past President), W. H. Gaunt, P. E. R. Graefe (Member of Council), A. Winter Gray (Secretary), E. B. Hutchinson, J. A. Kay, R. Kelso (a Vice-President), Captain E. H. Kinsellé, Messrs. C. F. Klapper, D. R. Lamb, R. Letch (Member of Council), H. H. Mauldin (a Vice-President), G. Morton (Member of Council), Lt.-Colonel A. H. L. Mount (a Vice-President), Messrs. L. H. K. Neil, J. S. Nicholl (a Vice-President), E. E. Painger (Member of Council), James Paterson, A. J. Pearson, C. Phizackerley, J. Pike (Member of Council), G. J. Ponsonby, F. A. Pope, M. D. Robinson (Member of Council), T. W. Royle (Member of Council), G. H. Searle, C. J. Selway (Member of Council), C. E. R. Sherrington, D. G. Sofio, Sir Louis Sterling, Messrs. Gilbert S. Szlumper (Past President), T. E. Thomas (President), Sir Herbert Walker, Messrs. C. M. Wentworth, W. A. Willox, Sir William Wood, Brig.-General J. M. Young.

XUM

TRANSPORT SERVICES AND THE WAR—25

Lord Stamp on blackout problems—Progress with railway lighting—The anti-gossip campaign—Railway steamers in war service—French train services reduced—Transit traffic through Poland—British Columbian timber traffic

No doubt because the Institute of Transport contains within its membership representatives of all forms of transport, and the experience of one section may prove of value to others, Lord Stamp, Chairman and President of the Executive of the L.M.S.R., dealt with some of the problems which had been raised on the railway system by the blackout and other difficulties during the first three months of war, when he addressed the monthly luncheon of the institute on February 12. Lord Stamp said that behind the statistical story of the work done in carrying greatly increased traffic and running hundreds of special trains, there was an untold human story of profound interest. His personal contacts with railwaymen of all ranks in their work at all the chief industrial centres had given him an inside picture of the patience, ingenuity, and resourcefulness of all grades. The initial improvisations to meet blackout conditions, which he described in some detail, were often crude and extreme, and it had taken some time to get them relaxed and improved and standardised. It was one thing just to hear that at first working had been slowed down by 50 per cent. because of blackout conditions, and quite another to experience the actual conditions which had caused this result; one thing to hear that the slowing down had subsequently been reduced to 10 per cent., and another to appreciate the local devices and ingenuity which had brought about the improvement.

Lord Stamp described the dual problem of preventing interior light from escaping from premises at night and yet allowing natural light to enter during the day. In many cases it was found that complete obscuration by night made it necessary to work by artificial light during the day. Alternatively, a fair measure of natural daylight usually meant that work at night had to be done by dimmed lights, with resultant slowing down. He went on to describe some of the devices which had been used in an endeavour to overcome the darkness, such as hooded lamps attached to the men's waists. These had helped in the reading of labels, but had entailed raising every parcel, with a consequent slowing down of work. In his concluding remarks Lord Stamp said he knew of no quicker or more impartial way of getting a comprehensive view of economic conditions and war reactions in a particular district than a discussion on the spot with a representative group of railway officials, covering the commercial contacts, the operating, engineering, labour, and estate interest, especially if one knew the personal equation of the officers in their own railway problems as they interlocked with economic conditions. These men touched business life at all points and were sensitive to industrial troubles, and to the influences at work, often long before these became the subjects of popular discussion.

Progress with Railway and Train Lighting

During the seven days ended Friday, February 9, 8,409 carriages were equipped with improved lighting, bringing the number of carriages dealt with up to the total of 96,164; 118,463 compartments have still to be equipped. The L.M.S.R. announces that it has now completed the equipment of all its London electric services, 329 train-sets in all, with the approved system of interior lighting. Services benefiting from this equipment are those from Euston and Broad Street to Watford, from Broad Street to Richmond, and the branches to Croxley Green and Rickmansworth.

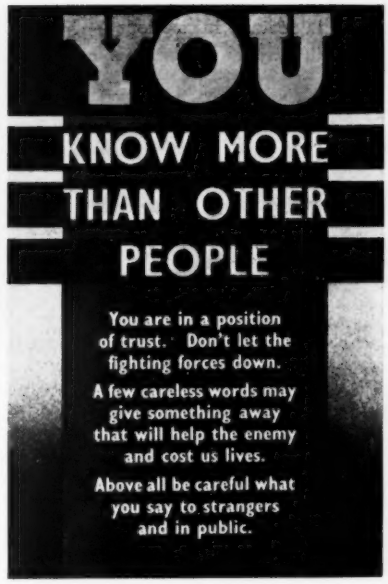
On the principle that "anything which can be done to lighten our darkness in these blacked-out days is a possible contribution to victory in the psychological warfare to this end," the Southern Railway is making good headway in its war against blackout inconvenience, consistent with Home Office Regulations. In addition to the lighting of trains,

Opinion
Thank the workers
WAS your train late?
Curse the weather, but don't blame the railway workers. They labour under immense difficulties and discomforts. So praise the engine-drivers, the stokers, the guards, the porters, the clerks, the ticket inspectors and collectors.
You take their services for granted when you arrive on time. Let the hold-ups remind you to thank them today.
WITH ACKNOWLEDGMENTS TO THE
Daily Express
BRITISH RAILWAYS
153 Special Trains a day!
RAILWAYS' 2,300 "SPECIALS" FOR GOVT. IN 15 DAYS
THESE TRAINS WERE CARRYING TROOPS AND WAR MATERIAL
ALL OTHER TRAINS HAD TO GIVE WAY TO THEM
WHEN YOUR TRAINS ARE LATE WILL YOU REMEMBER THIS?
BRITISH RAILWAYS
GWR
NEW TIME TABLE IN FORCE TODAY (Monday Feb. 5th)
● IMPROVED SERVICES
● MORE RESTAURANT CARS
● MORE SLEEPING CARS
★ More than 3,000 special trains run on Government account since Sept. 1st, 1939
Complete Timetable (price 6d.) obtainable at G.W.R. Stations, Offices, Bookstalls, etc.
JAMES MILNE, General Manager

Above: Two more "goodwill" posters of the Railway Executive Committee
Right: The G.W.R. has combined two types of announcement on one notice

which is proceeding apace, improved lighting has now been provided for some weeks past at 200 stations. Additional lighting to assist in handling mails, luggage, and parcels traffic has already been installed at many stations, and soon 61 stations will be so equipped. The additional lighting at these stations is controlled by a master switch. Arrangements have been made for normal lighting to be provided in the waiting rooms at all the 860 stations on the system, and some details of the scheme were given at page 819 of our December 22 issue. To help passengers in identifying stations in the blackout, the screening of waiting room windows is being so arranged that a "cut-out" showing the name of the station is illuminated by the inner lighting. Over 1,200 of these cut-outs have been fixed already. Platform lamps are being manipulated so that the light from them falls directly on to the station nameplates; in addition, the station name is also placed inside the shades of the lamps, wherever practicable. These methods help to counterbalance the difficulty experienced by the impossibility of illuminating the main station nameboards, which are usually found at the ends of platforms, and, of course, in these times, in outer darkness. Loud-speakers at some of the larger stations are also proving very effective in directing passengers, whilst the calling out of station names by local staffs is developing into something of an Eisteddfod, to judge by recent interesting correspondence in the *Daily Express*.

If you've news of our munitions
KEEP IT DARK
Ships or planes or troop positions
KEEP IT DARK
Lives are lost through conversation
Here's a tip for the duration
When you've private information
KEEP IT DARK!


YOU
KNOW MORE
THAN OTHER
PEOPLE
You are in a position of trust. Don't let the fighting forces down.
A few careless words may give something away that will help the enemy and cost us lives.
Above all be careful what you say to strangers and in public.

Warnings against indiscreet chatter designed for exhibition in railway works and similar places where those "in the know" assemble

L.M.S.R. Staff Wartime Suggestions

Wartime conditions have given a new angle to bright ideas submitted by railway employees under the L.M.S.R. Staff Suggestions Scheme, which since its inception has yielded nearly 28,000 suggestions for the more efficient and more economical conduct of railway business. One suggestion put forward by a member of the staff since the outbreak of war has been for damming a brook which runs through one of the L.M.S.R. works, in order to provide an auxiliary water supply of approximately 180,000 gallons for A.R.P. purposes. The demand for wartime economy in stores has also led to many suggestions. One was for using white rags instead of sponge-cloths for cleaning carriage brasswork, and another was for the recovery of sponge-cloths and tying them together to make mops. Railway employees have also thought out ideas for saving the use of railway wagons, which are in great demand since the war started. One L.M.S.R. employee put forward in this connection a detailed proposal for the erection of an incinerator, to avoid wagons being kept regularly on hand for loading refuse.

"Careless Talk Costs Lives"

Indiscreet chatter in wartime has been proved to the satisfaction of the Service Departments of the Government to be a national danger, and, although it is impossible to quantify the losses attributable to this source, they are convinced that in the last war they were considerable. In an endeavour to impress upon the public the danger of unwary discussion of such matters as troop movements, departure times and ports of ships, the progress of armament production, or the situation of anti-aircraft units, the Ministry of Information is embarking upon a poster campaign. Some 2,000,000 free sites, many of them in or upon railway premises, have been secured and an endeavour is being made to put them to the best possible use by selecting for exhibition posters most suitable to the vicinity and the generality of those passing the site. Some of the posters, such as those reproduced herewith, are in serious vein, designed especially for use among workers and others in positions where they are likely to have especial knowledge of importance. Others, intended for the general public who respond to a lighter touch, have been drawn by "Fougasse," but all make the same appeal for discretion. Representative selections of the "Fougasse" posters were reproduced in THE RAILWAY GAZETTE last week at page 174.

Railway Steamers in War Service

It is now permissible to state that fifty railway steamers have been taken over by the Government; the remainder maintain services on some of the peacetime routes. Those requisitioned include cross-Channel vessels, paddle steamers, train ferries, and other craft. Many of the captains and crews have volunteered for war service. The crack passenger vessels are of moderate size and range from 2,000 to 4,000 tons, are speedy and adaptable, and can be readily manœuvred in comparatively shallow waters and narrow channels. Above all, they are sturdy, all-weather craft. Night route and cruise steamers are easily adapted for use as hospital or troop-ships. The broad-beamed paddle steamer may be used for minesweeping. Shallow draft vessels are best for this work. Two illustrations showing the Fishguard-Rosslare steamship *St. Andrew* in service as a hospital ship are reproduced at page 226.

"Over the Points"

Over the Points, a quarterly review of matters concerning the Southern Railway, is now twelve years old and has twenty-five thousand readers, all of them regular Southern Railway travellers. The last peacetime issue was in July, 1939, and with the outbreak of war it was thought at first that it would be necessary to suspend publication throughout the war. Many friends have written and asked the company "What about *Over the Points*?" Believing that contact in wartime is as important as in peacetime, the Southern Railway has decided to carry on here as elsewhere, and an issue of *Over the Points*, No. 43, January, 1940, has recently been published.

"Southern on Service"

On the outbreak of war *Southern Sales*, the paper issued to the Traffic Department staff of the Southern Railway to record the progress of the various stations engaged in the canvassing "leagues" for obtaining new traffic, was suspended, as we recorded in our October 13, 1939, issue. Now, however, a new quarterly paper, called *Southern on Service*, has been produced and is being distributed to every member of the Southern Railway staff. A copy of the first issue—Number 1, January, 1940—has just been sent to us by Mr. C. Grasemann, Public Relations & Advertising Officer. It opens with a message from the General Manager, Mr. E. J. Missenden, which observes that the object of the new paper is "to supply news of interest to everybody and endeavour to let each know what the other is doing, and how the Southern is carrying on under wartime conditions. It will also tell you something, I hope, of your friends and comrades

On Active Service." The message includes the following three important injunctions:—

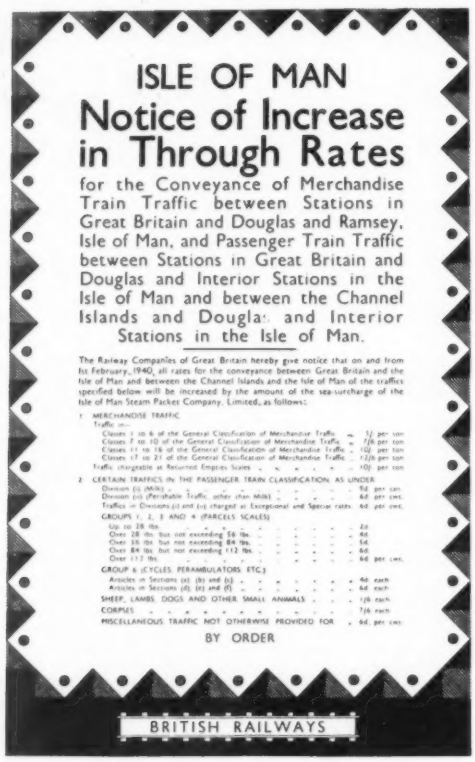
(1) To give our passengers every possible help, particularly during the blackout, and do please call out station names clearly and *loudly*.

(2) To prove to our traders, many of whom we have been serving for many generations, that we can still handle their traffic efficiently, in spite of the war.

(3) That as we are under Government control, in the national interest we must redouble our efforts to ensure economy and to avoid waste at stations, in workshops, and indeed in every department of our railway.

Some Southern Railway Facts and Figures

In addition to transporting vast numbers of troops and munitions, as well as food and other supplies, some of the activities in which the Southern Railway has been engaged since the outbreak of war are indicated by the following figures: number of children and mothers evacuated from London and other centres by Southern Railway 285,500;


ISLE OF MAN

Notice of Increase in Through Rates

for the Conveyance of Merchandise Train Traffic between Stations in Great Britain and Douglas and Ramsey, Isle of Man, and Passenger Train Traffic between Stations in Great Britain and Douglas and Interior Stations in the Isle of Man and between the Channel Islands and Douglas and Interior Stations in the Isle of Man.

The Railway Companies of Great Britain hereby give notice that on and from 1st February, 1940, all rates for the conveyance between Great Britain and the Isle of Man and between the Channel Islands and the Isle of Man of the traffics specified below will be increased by the amount of the sea-surcharge of the Isle of Man Steam Packet Company, Limited, as follows:

1. MERCHANDISE TRAFFIC

Traffic in—

Classes 1 to 6 of the General Classification of Merchandise Traffic — 3d. per ton
Classes 7 to 10 of the General Classification of Merchandise Traffic — 7/6 per ton
Classes 11 to 16 of the General Classification of Merchandise Traffic — 10/- per ton
Classes 17 to 21 of the General Classification of Merchandise Traffic — 12/6 per ton
Traffic chargeable at Returned Empties Scales — 10/- per ton

2. CERTAIN TRAFFICS IN THE PASSENGER TRAIN CLASSIFICATION, AS UNDER:

Division (i) (Milk) — 6d. per cwt.
Division (ii) (Perishable Traffic, other than Milk) — 6d. per cwt.
Traffics in Divisions (i) and (ii) charged at Exceptional and Special rates — 6d. per cwt.

GROUPS 1, 2, 3 AND 4 (PARCELS SCALES)

Up to 28 lbs. — 2d.
Over 28 lbs. but not exceeding 56 lbs. — 4d.
Over 56 lbs. but not exceeding 84 lbs. — 5d.
Over 84 lbs. but not exceeding 112 lbs. — 6d.
Over 112 lbs. — 6d. per cwt.

GROUP 6 (CYCLES, PERAMBULATORS, ETC.)

Articles in Sections (a), (b) and (c) — 6d. each
Articles in Sections (d), (e) and (f) — 6d. each
SHEEP, LAMBS, DOGS AND OTHER SMALL ANIMALS — 1/6 each
CORPSES — 7/6 each
MISCELLANEOUS TRAFFIC NOT OTHERWISE PROVIDED FOR — 6d. per cwt.

BY ORDER

BRITISH RAILWAYS

The official Railway Executive Committee poster notice of increase in through rates for Isle of Man traffic

number of special trains run for evacuees 1,014; number of ambulance and casualty evacuation trains provided for evacuation of hospitals 11; number of Anderson air raid shelters carried and delivered 256,000; number of special trains run for Christmas traffic 1,186; number of Southern Railway freight wagons employed as "common user" 32,321.

At a Southern Railway station in Hampshire large crowds in khaki were always to be seen—but never has the staff there had to deal with such numbers as now. On the Friday and Saturday before Christmas over 20,000 men, going on leave, passed through this station. In December alone warrants were changed to the value of £37,000, but, with the experience of many Tattoos to guide them, the members of the staff proved more than equal to handling big crowds, and their relations with the Officers in Command of this military centre, always excellent, have never been happier. All the intricate arrangements made to deal with the enormous Christmas traffic were carried through without a single hitch.

French Train Services Reduced

Owing to the considerable increase in goods traffic throughout France to meet national needs, the French National Railways Company (S.N.C.F.) has suspended temporarily a number of *rapide* and express passenger train services from January 29 until further notice. About forty long-distance trains are included in the list. The public has also been informed that the numbers of trains run in duplicate are now strictly limited and cannot be increased. The S.N.C.F. has announced that passengers who have booked seats in advance and find them no longer available because of the restricted services, will have the booking fees returned on application. Some local trains, stopping at all stations, are also being taken off, and notice will be posted in the stations and also advertised in the press. The S.N.C.F. at a later date will issue notices indicating when the suspended train services will be resumed. It is probable that further measures for the co-ordination of transport by road, rail, and water will be suspended for the time being. A resolution to that effect has just been voted by the parliamentary committee of public works.

The Paris Metro

The Paris Metro has decided to re-open twelve stations which have been closed since the beginning of the war. No decision was taken on the proposal to extend the Metro services at night; the trains now run until 11 p.m. and it was proposed to extend the time to midnight in order that persons from cafés and places of entertainment might have the benefit of the underground train services on their homeward journeys.

Transit Traffic Through Poland

Ever since the beginning of the invasion of Poland, first by Germany and afterwards by Soviet Russia, we have endeavoured in these columns to sift the evidence concerning transport changes in the territories affected, and to discount the wild rumours that time and again have been given a brief currency—often through the lay misinterpretation of technical railway details. Our reading of the situation to date has now received striking confirmation from a closely reasoned article by *The Times* Balkans correspondent, who writes from Belgrade under the date February 11. The following are extracts:—

"German military engineers are in the Ukraine preparing fortifications at Odessa, Mariupol, and Novorossisk, and in the Caucasus, preparing fortifications at Batum. Fresh fortifications are also reported to be under construction on the Russian bank of the River Dniester—the Russo-Rumanian frontier. These fortifications are evidently planned for the protection of the Baku-Kieff and Odessa-Lwow railway lines. The former is being loaded to its fullest capacity with war material for Finland, and with oil, manganese, and copper for Germany. The latter has been carrying wheat, and apparently also oil, for Germany.

"Goods trains for Germany are known to have suffered seriously from sabotage on the Soviet side. Many oil tankers in Soviet-occupied Poland bound for Germany have been found mysteriously punctured. An official German denial of the recent report that a Rumanian oil train bound for Germany by the Cernauti-Lwow railway never arrived, and that the oil was diverted to Finland, made the significant admission that Germany had so far received no oil by this route. Since it is learned from Cernauti that three oil trains have been dispatched to Germany, it is clear that sabotage has taken place.

"To protect German goods trains it is now learned that German military forces are stationed on the Lwow-Odessa railway. This fact may partly explain the reports of eye-witnesses, recorded a few weeks ago, that German military forces left Lwow for Podwoloczyska, on the former Russo-Polish frontier, every few nights between January 3 and January 20, while Soviet troops left in the same direction every night. The suggestion then put forward, that these forces were going to Podwoloczyska, where the railway gauge changes,

XUM

to entrain for the Ukraine and the Caucasus, seems to be confirmed.

"It is not known whether sabotage of German supplies is occurring on the Baku-Kieff line, nor whether in consequence German forces are established on this railway, too. . . . The unsatisfactory nature of the Soviet railway goods services from the Caucasus region to Germany is shown by German efforts to reorganise shipping facilities in the Black Sea. An important official of the German Levant Line has arrived in Odessa to establish a shipping organisation, so as to facilitate the transport of wheat from Novorossisk to Odessa, whence it would be taken by rail to Germany.

"German engineers have arrived at Varna, Bulgaria, where they are building a 9,000-ton reserve container for oil which is to be shipped from Batum for transport by rail through the Balkans to Germany. This plan, however, is bound to encounter the difficulty of a severe scarcity of tankers on the Bulgarian railways."

British Columbian Timber Traffic

It is expected that an agreement will be reached shortly between the two main railway companies of Canada and the British Timber Control Board for the transport across Canada by rail of large quantities of British Columbian lumber, for shipment by steamship to Great Britain from the eastern seaboard. Negotiations have been under way for some time, but the British Timber Control Board regarded the rail rates quoted by the companies as too high. The railways have decided to reconsider the rates, it is understood, and conferences which are being held may result in rates that will prove acceptable to the British authorities. If such an agreement is reached, lumber from the Pacific coast will at once begin to flow eastwards, probably on flat cars, from Vancouver to St. John, N.B., and Halifax, there to be shipped to the United Kingdom. Reports from Vancouver state that more than 300,000,000 cu. ft. of lumber are in the mill yards of British Columbia ready for transport.

Ordinarily, British Columbian lumber is shipped to the United Kingdom *via* the Panama Canal, because this is the cheapest means of transport, but the drawback to this is the length of time required for the voyage. Since the outbreak of war, British authorities have gone to great lengths to use to the maximum extent the shipping space available. Having lumber moved across Canada by rail, and thence by ship across the Atlantic, will not only save considerable time on every shipment, but will economise much tonnage, as fewer ships will be able to make many more voyages between Canada and Great Britain. It will, of course, be dearer to move the lumber this way, but apparently the added cost is deemed justified.

It is understood, writes our Canadian correspondent, that Great Britain has already purchased vast quantities of lumber now in British Columbia available for shipment, and some ships will probably still be kept on the all-water route from Vancouver to bring part of the lumber, with the balance handled *via* the rail-water route. When we read in the daily press that 60 ships were ear-marked for this lumber traffic *via* Panama, it seemed to us prodigal waste of tonnage when everything was being done to economise it, and when there were two perfectly good Empire rail routes available, by the use of which only a ferry service across the Atlantic was necessary to ship at least a part of this timber.

The "White Fiend" on the Railway

The recent severe weather, which disorganised railway services in many parts of Great Britain, gives topical interest to the following article by Mr. D. S. Barrie, which we reproduce from the "L.M.S. Magazine" for February, 1939, where it was published shortly after the sharp spell of just over a year ago. The unusual intensity of snow and ice during January is depicted in a series of illustrations on pages 225 and 226.

"During fog or falling snow"—the frequency with which this phrase occurs, as a qualifying or additional clause, in the L.M.S.R. Rule Book is a reminder of the respect with which all railwaymen must treat the "white fiend" of the railway—falling snow. But those members of the staff who in various parts of the system have been brought into uncomfortable physical contact with it during the recent severe spell will derive little consolation from the fact that railways today suffer far less than they did formerly from the havoc and interruption of snowstorms.

The 'eighties and 'nineties were probably the worst period of British railway history for severe snowstorms, and old-timers are apt to scoff at such snow as we get today. Yet there are certain parts of the L.M.S.R. system where the possible interruption of services by a snowstorm of any severity is a very real menace, as the frequent snow-plough patrol on the Highland Section of the system testifies. Whilst certain other lines, notably in North Wales on the Western Division, and between Settle and Carlisle on the Midland Division, have their "black spots" (or, more literally, "white spots"!) it is the old Highland line which undoubtedly claims the dubious distinction of being more exposed to the risk of snow blockage than any other in Great Britain.

This risk emanates more from *drifting* than from *falling* snow; the latter can be cleared easily by the wedge-ploughs (of which there are 54 allocated to the Perth engine sheds alone), but when the wind sets keenly the wrong way, it may pile up the snow in the cuttings so fast and so deep that little can be done till the gale abates. Four points on the Highland line notorious for snow-drifts are the County March between Perthshire and Inverness-shire, the "Black Tank" farther north, Dava Moor on the "auld road" between Aviemore and Forres (where the line is over 1,000 ft. above sea level), and the "Fairy Hillocks" on the Inverness—Wick line.

The worst storm in the history of the Highland line was probably that which broke with hurricane fury on Christmas Eve, 1894, blocking practically the whole of the Highland Railway except between Inverness and Helmsdale, and cutting off nearly all telegraphic communication. The Dingwall and Strome Ferry branch was closed for the best part of two months, and one special train from Wick was so deeply embedded that the engines were buried above their chimneys.

Because the snow menace on the Highland line comes from drifts and not from direct falls, there are no snow sheds in the true sense of the word, but snow fences, placed to check the drifts and keep them clear of the line, are used extensively at exposed points. Similar fences are used on other sections of the system, notably on the Settle and Carlisle line, parts of which are so high (the maximum elevation is 1,169 ft. at Ais Gill) and so windy, that at Hawes Junction (now Garsdale) a locomotive was once blown round and round on the turntable nearly all night, until the frantic enginemen stopped it by hurling ballast into the pit!

The only snow shed proper on a British railway, incidentally, is that on the L.N.E.R. West Highland line where it crosses bleak Rannoch Moor.

The Northern Division of the L.M.S.R. is proud of its snow ploughs (you'll find them even on the outskirts of Glasgow, at Motherwell engine shed) but it can't claim a complete monopoly of snow-fighting thrills. Only a few years ago, shunting at an important traffic yard in the Midlands was brought completely to a standstill by the force of a blizzard. And a London engine driver who recently retired, Mr. William Embling of Kentish Town, recalled that during the great blizzard of April, 1916, he was over 37 hours on duty, the engine of the freight train which he was driving becoming embedded up to the funnel in a huge drift.

The sunny West of England, whose Riviera-like climate is extolled with such enthusiasm by our Great Western colleagues, has also had snow troubles rivalling those of the Highland. In 1881 the Great Western had to dig out 111 miles of snowbound line, the drifts being as much as ten feet deep in places; 51 passenger and 13 freight trains were buried, and nearly 150 separate blockages occurred! The total cost was over £50,000. Ten years later a passenger train was snowed up on the Princetown branch, in the wilds of Dartmoor, and six passengers and some of the train crew spent 36 hours unable to escape.

XUM

PARLIAMENTARY NOTES

Government Control of Railways

The Government's financial arrangement with the railway companies was discussed in the House of Commons on February 13.

Mr. Herbert Morrison (Hackney South—Lab.), who opened the debate, moved "That, having considered the financial arrangements with respect to Government control of the railways as set forth in Command Paper No. 6168, this House is of opinion that the interests of the country would be better served, and the many problems created by the present lack of unification solved, by the establishment of a permanent national transport authority to own and control all forms of inland and coastwise transport."

After giving a summary of the main points of the agreement between the railway companies and the Government, Mr. Morrison said that an opportunity should have been taken to have drawn together the various forms of transport in order that they could be conducted as a properly consolidated public service. The settlement in the case of the four amalgamated main line companies was on the revenue of the undertakings for the three years 1935, 1936, and 1937. They had left out of the computation the year 1938. It should be noted that the net revenue of the four amalgamated companies in 1938 was considerably less than the sum of £41 millions. Although the Government was guaranteeing £40 millions it would actually pay for Government traffic that went over the rails, whether it be men or materials.

Guaranteed Profits

The Government was clearly contemplating the possibility, and making it a probability, that the railway companies were to be put in a definitely better position than they were in at the outbreak of hostilities. If that was so the Government had taken a grave responsibility. It had laid it down that the railway companies had a right to earn higher profits and dividends as a result of the war. If railway directors in the House argued that it was highly speculative, and indeed doubtful, whether they would get such increased profits he was bound to answer that the Stock Exchange did not take that view. The fact was that ever since it was known that the agreement was coming railway stocks started moving up, and the rise had been considerable. It must have amounted to at least £100 millions in the total increased capital value of all home rail stocks. There could be no doubt that the agreement had, in the judgment of the Stock Exchange, materially increased the values of railway stocks.

The Government had guaranteed a minimum level of profits which were well above those of any of the most favourable of recent years. The figures which the Government contemplated as being possible for the companies to get were very much in excess of the dividends they had coined since their amalgamation under the Act of 1921. By the agreement the Government had guaranteed practically to shareholders a dividend which meant well above that which had been paid, and it will be allowing the companies to increase their profits out of an emergency in which their competitors had been knocked out.

He asked the Minister whether the increased profits which the companies might get were to be subject to Excess Profits Tax. The railway companies ought to have had a capital reconstruction years ago.

They might get to the point of socialisation after the war. If there was to be nationalisation the companies would argue that the basis of compensation should not be the £33 odd millions of 1938, but the profits bolstered up by the Government of the war period.

Minister's Reply

Captain Euan Wallace (Minister of Transport) said he imagined that no one would dispute the need for the control of railway transport undertakings in time of war. The financial arrangements were based upon the general principle that the receipts of the joint undertakings should be pooled. The pooling of finance was essential to unified operations. It was clearly necessary that the London Passenger Transport Board should be included in the pool. The whole foundation of the present plan was that the railway system should be operated by the railway executives upon an economic basis. This plan had two merits.

"It has the advantage of reality," continued Captain Wallace. "We keep our feet on the ground, so to speak, and we pay for the use of the railways as we use them, and there are no postponed liabilities to be met by our successors. Secondly, there is the principle of profit-sharing, under which we do our utmost to encourage the management to combine economy and efficiency."

It would be conceded as a principle that extra work gave more claim to extra pay, and accordingly the House would not quarrel with the proposal that some part of the earnings in excess of the guaranteed minimum should accrue to the controlled undertakings. The figure of £3,500,000 represented some recognition of the extra work falling upon the railways, and at the same time it was a consideration for the inclusion in the control gained of the L.P.T.B., and for the inclusion of privately owned railway wagons.

The question of net earnings was, of course, bound up with Excess Profits Tax. The agreement gave the railway companies and the L.P.T.B. no Statutory exemption from E.P.T., and therefore in no way affected the liability of the railway companies and the L.P.T.B. in respect of E.P.T. in so far as their profits, including their shares of net revenue from the pool, were concerned. If he was asked whether, in fact, these undertakings would be called upon to pay E.P.T. at any particular stage of their earnings, he could only refer the House to the provisions of the second Finance Act of last year, in which the taxpayer was given various alternatives as to the choice of the standard, and the question of the liability of the railways depended upon the basis upon which it was ultimately decided, under the machinery of the Act, was appropriate in their case. But this agreement gave the companies no privileges or exemptions.

Captain Wallace recalled the maintenance and repairs provisions in the agreement in the last war and described them as thoroughly unsatisfactory. It was intended in the present agreement, he said, that all those difficulties should be removed by the agreed standard maintenance allowance, which would limit the charges for either repairs or renewals to those of the corresponding basic period, except where the costs of labour and materials could be shown to be increased.

"We intend that the controlled undertakings should operate upon an economic basis," added Captain Wallace. "This means the adjustment of charges to various working costs, including wages, rents, building materials, trade charges, making good war damage, and, in the case of the L.P.T.B., the cost of making good the loss of earnings. It was not possible under the stress of war conditions to retain the jurisdiction of the Railway Rates Tribunal over the general level of charges, but that did not mean that the safeguard for the consumer was gone."

Rates and Fares Machinery

The Minister of Transport would by Order under the Defence Regulations adjust the rates, fares, and charges in operation at the outbreak of the war to meet variations in workings, costs and other conditions. The machinery for effecting this adjustment would be as follows. The Railway Executive Committee would estimate periodically the effect of these variations and other war conditions and submit a statement to the Minister. For some months he had been setting up a special department at the Ministry of Transport, headed by a distinguished ex-civil servant—Sir Arthur Eborall—to deal with the question of rates. If it appeared that an adjustment of charges was justified the Minister would, unless he considered it in the circumstances unnecessary or undesirable, seek the advice of the permanent members of the Railway Rates Tribunal acting in an advisory capacity. Any representations by a representative body of users as to the level of charges would be considered by the Minister, and, if necessary, referred to the consultative committee for advice.

Sir George Courthope (Rye—C.), who pointed out that he was a railway director, stated that year by year since railways were originally started there had been certain sums set aside for the replacement of the permanent way and of rolling stock. At the present time the amount of money required for the replacement of a certain mileage of permanent way was more than double the original cost of the permanent way. If one took into account replacement value they had an under-capitalised railway system, because the whole of the permanent way and the whole of the rolling stock was standing on the books at a figure infinitely less, probably not more than half its replacement value today.

The four main-line railways were doing very much better during the pre-war period of 1939. The railway he could speak for* did so well during the first eight months of 1939 that it was hopeful that it would reach its Standard Revenue in that year, but the war intervened.

Stockholders' View

The representatives of the railway stockholders did not consider that they had got a fair deal. They tried hard to get what they considered a fair deal and they had to accept the best they could get. They disliked it intensely. It appeared to them most unfair that the London Passenger Transport Board, whose business was of a totally different kind to that of the main-line railways, whose receipts were very seriously affected, especially by the evacuation scheme, and whose position rendered it particularly vulnerable in the event of air attacks, should be brought into the pool.

In the course of further debate

Major Ralph Glyn (Abingdon—C.) said that nationalisation would result in the total elimination of railway trades unions. For months now railway companies had been carrying on negotiations with the road interests and great progress had been made. There was not a single railway company that was not anxious to help the road industry, and there was not a single railway company which was now taking a vindictive course against road operators. He did not regret the London Passenger Transport Board being brought into the scheme because the future might see an extension of that system.

Captain H. Crookshank (Financial Secretary to the Treasury) said that charges for Government traffic would be discussed by the different departments through the Minister of Transport with the railway companies. If agreement could not be reached the dispute would be sent to the President of the Railway Rates Tribunal as arbitrator, with two other members as assessors.

There was nothing in the proposed agreement with the railway companies that altered in any way the application to the railway companies of the general principles of the law relating either to the computation or liability to Excess Profits Tax.

On a division the Labour motion was rejected by 186 votes to 119.

The Discussion of February 7

On February 7, following the statement by Captain Euan Wallace, the Minister of Transport, on the terms of the financial agreement between the Government and the railways during control (which together with the relative White Paper appeared in full in THE RAILWAY GAZETTE last week) there was a brief discussion which is reproduced below :—

Mr. Herbert Morrison (South Hackney—Lab.) : Can the Minister say whether he thinks it is reasonable, as the Government is guaranteeing the profits of the companies as in the years preceding the war, that the Government should contemplate profits going up to the Standard Revenue which in fact has not been earned, as far as I can remember, since the passage of the Railways Act, 1921 ? In these circumstances, does not he think the Government has been unduly generous to the companies, and ought he not to keep the profits at the level at which they were during the three years immediately preceding the war, and not contemplate any higher profits ?

"Logical and Reasonable"

Captain Wallace : I think that it would perhaps be better if Mr. Morrison would be good enough to read the White Paper. I should like to say in general terms that, in my view, this settlement represents a coherent, logical, and reasonable scheme. It is the fact that, after the guaranteed minimum, there is a further period during which the undertakings can retain the whole of their additional earnings, but, after £43,500,000 the Exchequer takes a half share. I hope that hon. gentlemen in all parts of the House will read the White Paper before they make any criticisms.

Mr. H. Morrison : Will the Minister meet the point ? The Government is actually guaranteeing the pre-war profits of the last three years, and does he think that, in view of that guarantee, which is of great value to the shareholders, the Government ought to contemplate that their profits during the war period may go substantially beyond the guaranteed profits of the average of the last three years ; and, secondly will the Minister of Transport or the Prime Minister give some indication whether facilities will be given for a discussion of this agreement by the House of Commons ?

Captain Wallace : I think that Mr. Morrison really has only looked at one side of the picture. It is not a question, as he seems to put it, of supplying the railways with public money out of the Exchequer. As far as it is possible to forecast at present, it seems that the railways will not only reach their minimum, and therefore not involve the Government in any subvention whatever, but that the taxpayers may be able to have a share in the profits. I may remind Mr. Morrison, when he talks about pre-war earnings, that, as everybody knows, the Government and the nation intend to make very much more use of the railways during the war than in peacetime. As regards the question of a Debate, Mr. Morrison will see from what the Prime Minister said last Thursday that he dealt precisely with that question.

Transport Needed

Mr. C. R. Attlee (Leader of the Labour Opposition) : Has not the Minister just indicated that it is within the power of the Government to say what traffic shall be on the railways and to control alternative forms of traffic, and that therefore it is really in the power of the Government, if it chooses to enable the railways to get a much higher rate of profit than they have been able to earn under pre-war conditions ?

Captain Wallace : If Mr. Attlee had my job he would realise that we want all the transport we can get during the war.

Mr. J. Maxton (Glasgow, Bridgeton—I.L.P.) : Will the Minister tell us the difficulties with which he met in arriving at an agreement which was so obviously advantageous to the railway shareholders ; and can he explain why there was any difficulty at all in coming to that solution, as I understand that there have been very protracted negotiations ?

Captain Wallace : There are, of course, a large number of detailed questions to be dealt with in the settlement, and I was most anxious—and I am sure the House has been most anxious—that we should have a watertight agreement. As regards the rest of Mr. Maxton's remarks, he seems to be begging a fairly big question.

Mr. G. Ridley (Clay Cross—Lab.) : May I ask the Minister whether, since the prospective profit figure agreed to has apparently to be related to the capital structure, any attempt was made on the part of the Minister to secure a reconstruction of the overburdened capital structure of the holding companies, and whether also any attempt was made to secure a modification of the Standard Revenue fixed as a result of the 1921 Act and related to the realistic circumstances of 1940 ?

Captain Wallace : I think that under the arrangement that has been made with the railways, it will be a long time before the figure of Standard Revenue is reached, so we cannot expect the Standard Revenue figure of 1921 to be regarded as a likely target. I do not think, either that it would be a very wise policy to try to undertake, by Government compulsion, the capital reconstruction of the railway system at the beginning of the war.

Mr. Chuter Ede (South Shields—Lab.) : Can the Minister say, from the economic side of this arrangement, which side was advised by Lord Stamp ?

There was no reply.

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* Sir George Courthope is a Director of the Southern Railway Company

XUM

RAILWAY AND OTHER MEETINGS

Westinghouse Brake & Signal Co. Ltd.

The ordinary annual general meeting of the Westinghouse Brake & Signal Co. Ltd. was held at Winchester House, Old Broad Street, E.C., on February 13.

The Rt. Hon. Lord Southborough (the Chairman), who presided, in moving the adoption of the report and accounts, said that he had for years emphasised the importance of foreign trade to his company. Disturbing factors in the world's markets had an important bearing upon both prospects and actual financial results.

In the past five years large participation in the export trade had contributed greatly to the company's success. Therefore the disturbance of war must have substantial effects upon it.

He welcomed the Export Council nominated by the Board of Trade as indicating the Government's intention to organise and further this side of the country's economy. Passing to the report and accounts, made up to September 30 last year, he recalled that the final month of the company's financial year synchronised with a hiatus in all normal business relations. All work on the Polish contract halted. The Polish Government had told the company that promissory notes due for payment after October, 1939, could not be met. The contract had run exceptionally smoothly and up to October the Polish Government had promptly met all payments. In view of the new situation it had been considered necessary to make substantial provision in the accounts against eventualities in connection with the contract.

It was disappointing to find a decrease in profits from £262,518 for 1938 to £88,932 for 1939, but some effects of a state of war and of anticipated war conditions on profits were inevitable.

Under the Lithuanian contract all deliveries had been made and most of the payments received. There are certain amounts outstanding, but there was every reason to believe they would be made on the due dates.

If special reservations had not been made to meet war conditions, the profit earned by the company would have been the highest in its history, and considerably in excess of the corresponding figure for the previous year. The decline was solely attributable to *force majeure*.

The company's investments were protected by a reserve fund of £78,000; in recent years goodwill had been written down by £31,992 to the nominal figure of £1. Cash at banks and in hand had risen in 5 years from under £30,000 to £315,573. The staff pensions account totalled £70,000 and the general reserve had been increased in recent years by £245,000. Meanwhile stockholders had received anything but unimportant dividends and cash bonuses.

As to trade in this country, certain orders for brakes and signalling had been cancelled. There were still a number of contracts so far advanced that they would be completed. Railways and transport in general were vital elements and certain orders, for brakes in particular, had come in as a result of the war.

The Chairman concluded by expressing appreciation of the services of Captain Peter, the Managing Director, and his staff.

The resolution was seconded by Mr. N. G. Brown and carried unanimously.

Captain B. N. Peter (Managing Director), addressing the meeting at the invitation of the Chairman, spoke of the contract the company had in Lithuania. That contract was finished, the material had all been supplied, and most of the payments had been made. The total outstanding amount was about £15,000 and was due in November. He believed it would be paid, but in any case a large proportion of it was guaranteed by the Export Credits Department, so that the position was very satisfactory.

The company had had to spend a great deal of money—somewhere between £20,000 and £30,000—in Air Raid Precautionary work. Later it was faced with a very serious increase in income tax.

When last month the question had come up as to how the board was going to handle this situation created by war conditions, it would have been very easy indeed for any member of the board to have said: We have put something like £500,000 to various reserves in the last five years, why not make the necessary provisions out of that? That would have been absolutely proper, and it would, perhaps, have made life a little easier and would have made possible a bigger dividend this year, but nobody proposed it. He was very proud that the unanimous decision of the board was that it was more important that the company should conserve its strength for what it might have to face than that it should pay a rather larger dividend in this particular year.

The company had a good deal of work in hand 12 months ago, and it had had a very great output during the year, but at the present moment it had at least 20 per cent. more work in hand than a year ago.

The proceedings concluded with a vote of thanks to the Chairman.

RAILWAY AND OTHER REPORTS

Great Western Railway.—The Secretary writes: "The gross receipts from the railway and ancillary businesses of the Great Western Railway Company for the eight months to August, 1939, yielded an increase of approximately £1,180,000 as compared with the estimated figures for the corresponding period of 1938, and the net revenue showed an increase of approximately £870,000. The net revenue of the company for the whole year, which includes an estimated sum for the period from September 1 to December 31 adjusted in accordance with the terms of the financial arrangements made with His Majesty's Government in respect of the control of railways, amounted to £6,607,324, an increase as compared with the year 1938 of £1,563,571. The balance brought forward from the previous year was £87,085. The total sum available for distribution is thus £6,694,409. After meeting the interest and dividends on the pre-ordinary stocks, there remains available for ordinary dividend £1,704,640. The directors have decided to recommend the payment of a dividend of 3½ per cent. on the consolidated ordinary stock for the year, leaving a balance of £202,099 to be carried forward. The dividend warrants will be posted on or about the 20th proximo."

Great Northern Railway Company (Ireland).—The directors announce that although for the year 1939 a substantial increase is shown in traffic receipts, the net result, due to circumstances that have arisen from the war and the debit balance brought into the accounts from 1938, does not permit the board to recommend the payment of any dividend on the guaranteed, preference, and ordinary stocks.

Isle of Man Steam Packet Co. Ltd.—A dividend of 6 per cent. is recommended for 1939, the same as for 1938. Net profit is £37,776 which compares with £36,901 for the previous year.

Argentine Great Western Railway.—Interest on the 5 per cent. debenture stock is to be paid for the half-year to October 1, 1935, against nil a year ago.

Beira Railway.—The directors recommend a dividend of 2s. a share for the year to September 30 last (the same as for the previous twelve months). Net profit was £173,127 against £214,454.

Buenos Ayres & Pacific Railway.—The directors announce that 6 months' arrears of interest up to July 1, 1935, are to be paid on the 4½ per cent. consolidated debenture stock. No payment was made a year ago.

English Electric Co. Ltd.—The directors announce that earnings for the year 1939, before taxation, were £565,656, compared with £551,709 for the previous year. As provision for taxation takes £210,000 against £50,000, net profits are actually lower at £355,656 compared with £501,709. The dividend recommended on the ordinary shares, increased by one-third last year, 10 per cent. (same).

Staff and Labour Matters

Railway Wages

After the preliminary meetings between representatives of the railway companies and the three railway trade unions, the Railway Executive Committee met the trade unions in London, on Thursday, February 8, in connection with the claims for improvements in the salaries and rates of pay. The National Union of Railwaymen and the Associated Society of Locomotive Engineers & Firemen had submitted claims for an all-round increase of 10s. a week, and the Railway Clerks' Association claimed an increase of £20 a year for salaried staff. At the meeting on Thursday the Railway Executive Committee made an offer to the trade unions with retrospective effect to January 1, 1940, which was accepted the following day. The terms of the settlement for the main-line companies' staff are as follow :—

1. A flat rate addition to be made to :—

(*a*) Conciliation staff covered by National Agreements, of—

Male adults	..	4s. 0d. a week.
Junior males	..	2s. 0d. ,,
Females ..	..	3s. 0d. ,,
Junior females	..	1s. 6d. ,,

(*b*) Clerical staff, stationmasters, and supervisory staff, covered by National Agreements, of :—

Male adults	..	£10 per annum.
Male juniors	..	£5 ,,
Women clerks	..	3s. 0d. a week.
Girl clerks ..	..	1s. 6d. ,,

These payments are to be taken into consideration in calculating overtime, Sunday duty, and night duty payments, but are not to be taken into consideration in connection with superannuation or pensions.

2. The payments will apply from January 1, 1940, and will absorb the cost-of-living additions which became payable from that date.

3. The existing cost-of-living sliding scale to be suspended.

4. Grades not covered by the National Agreements will be considered separately.

For the London Passenger Transport Board the terms are :

Conciliation Staff

Male adults..	4s. a week or 1d. an hour.
Female adults	3s. a week or ¾d. an hour.
Male juniors, 18 to 21 years of age	2s. a week or ½d. an hour.
Female juniors, 18 to 21 years of age ..	1s. 6d. a week or ⅜d. an hour.
Male & female juniors under 18 years of age	1s. 6d. a week or ⅜d. an hour.

Salaried Staff

Same arrangements as for main-line companies.

Agreement has also been reached between the main-line railway companies and the trade unions in regard to consequential increases arising out of Railway Staff National Tribunal Decision No. 6. These consequential increases were necessitated by the Tribunal raising the minimum rates to 50s. in London, 48s. in industrial areas, and 47s. in rural areas, in order to maintain differentials in the rates of the various grades whose rates of pay were above the minimum rates awarded by the tribunal. In its decisions the tribunal made the following observations in regard to these consequential increases : "The tribunal, in considering this indirect cost, has assumed that while the increase of minimum rate will doubtless necessitate some increases further up the scale it will not affect the higher rates, such as those already above 65s. ; and that between the lowest and the highest rates in respect of which advances are granted the increases will in general be progressively reduced."

Railway Shopmen

The claims of the trade unions for an all-round increase of 10s. a week in the rates of pay of railway shopmen and a minimum wage of 50s. a week, were further considered at a meeting of the National Railway Shopmen's Council in London on Monday, February 12. The claim for an increase of 10s. a week was adjourned, for further consideration, by the railway companies, but agreement was reached on the claim for a 50s. minimum wage. The settlement provides that timeworkers employed in the workshops are to receive minimum rates of pay, including bonus, corresponding to those awarded by the Railway Staff National Tribunal in their Decision No. 6, and certain consequential alterations in the rate of pay of timeworkers in grades which would be closely affected by the advances to the lowest paid grades, will be granted. The increases are to apply as from the end of October, 1939.

Steel Workers and Engineers

An advance in wages for South Wales miners will operate immediately from an award made by the joint board of the Siemens Steel Trade on February 5. The Iron & Steel Trades Confederation applied for anticipation of the sliding scale percentage due on the new ascertainment, owing to the increase in the price of bars operating from February 1. Under the agreement, the war advance of 6¼ per cent., which previously operated, has been increased to 10 per cent., with additional make-up to labourers of 1s. 10d. a week.

Prolonged negotiations between the Engineering & Allied Employers' National Federation and the trade unions on Tuesday, February 6, resulted in an offer by the employers to add 5s. a week to the bonus for men, with proportionate increases for apprentices and boys, payable from the week beginning February 19, 1940. In the morning the employers met the Amalgamated Engineering Union and the National Union of Foundry Workers, and in the afternoon they met the Engineering Joint Trades Movement, representing about 40 trade unions. At the close of the proceedings it was announced that it was mutually agreed to recommend the following to the respective constituent bodies :—

1. That the national bonus be increased by 5s. a week to all adult male workers, such increase to apply as from the commencement of the pay period starting in the week beginning February 19, 1940.

2. The wages of apprentices, boys, and youths will fluctuate proportionately according to the national agreement of December, 1937.

At the outset of the negotiations the employers made their considered reply to the arguments used by the unions when presenting the claim for an increase of basic wage rates of 10s. a week. The employers had already put before the unions a statement of grave general reasons why the industry should try to discover a policy to safeguard it from the dangers of inflation. The present annual rate of national expenditure to be met out of income and borrowing approximated already, though it was by no means at the maximum, to half the total income of the country. Such a state of affairs, continued for any length of time, would strain our resources to the uttermost. Rising costs meant rising prices, and if wages went up prices must follow. The employers invited the unions to consider the consequences of inflation experienced after the last war and the effect of higher costs on export trade. The employers' offer was accepted by the Engineering Joint Trades Movement at a meeting at York on February 8.

Seamen's Wages

Important changes in conditions of service in the Merchant Navy were agreed upon at meetings of the Navigating and Engineer Officers' and Sailors' and Firemen's and Catering Panels of the National Maritime Board, which ended in London on Saturday, February 10. A statement by the board says that the Officers' Panels agreed from March 1 to increase the National Maritime Board standard rates of pay of navigating and engineer officers by £2 a month and 10s. a week. The officers have been pressing for hours of duty to be regulated. The owners have tabled proposals, and an early agreement is expected. The Shipping Federation and the Employers' Association of the Port of Liverpool replied to the claims admitted on January 19 by the National Union of Seamen, and the following agreements were reached, to come into force on March 1 :—

Standard rates.—The National Maritime Board standard rates of pay for ratings—unchanged since January 1, 1938—to be increased by £1 a month and 5s. a week (half increase for boys).

Seafarers' war risk money.—The war risk money to be paid at the same rate for all adults, irrespective of rank and ratings—*i.e.*, £5 a month, and £1 3s. 4d. a week (half rate for boys).

It was also agreed in principle that ratings should be given periodical wartime leave on pay in the United Kingdom. The Government will be asked to provide merchant officers and seamen with two free rail vouchers a year, as in the case of the Royal Navy and of certain merchant ships in attendance on the Fleet. The agreement will benefit between 50,000 and 60,000 men.

XUM

Notes and News

Railway Accident in Italy.—The locomotive mail van and several coaches of a northbound express from Rome were derailed near Pisa on February 11, causing the death of five persons. The line here is electrified.

Brussels International Fair.—The 1940 Fair will comprise 2,750 stands. Certain sections have disappeared temporarily or are being grouped in a somewhat more restricted space, but some recently founded sections are enlarged; there are also some new sections.

Transport at the Science Museum.—The main hall of the Science Museum, South Kensington, was reopened on Wednesday last, February 14, with a special exhibition of "Aircraft in Peace and War." Two other galleries containing transport collections, and one specially for children, were also opened.

The Herbert Jackson Prize.—The L.M.S. Railway announces that the Herbert Jackson Prize for 1939 has been awarded to Mr. H. I. Andrews, of the Engineering Section, Research Department, Derby, for his paper entitled "The Development of a Refrigerating Machine for use on Trains."

Increase of Exceptional Rates in Eire.—The Great Southern Railways Company has given public notice of increase in exceptional rates on account of the rising cost of working expenses and the prospective further additional expenditure. An immediate increase has been made in the rates for grain and millstuffs. During the last decade, owing to road competition, the company was compelled to grant extremely low rates in order to retain traffic, and it is now proposed to bring such rates up to a higher level and thus remove anomalies. Increased rates for livestock traffic also operate from February 1. During the year 1932 when the prices of livestock depreciated very considerably after the introduction of the British tariff on Irish stock, the company made a reduction in the rates, and a further substantial reduction in 1934. These reductions were admittedly of great advantage to the trade as well as to the railway company, as it encouraged the movement of stock which would not otherwise pass. Owing to altered circumstances the company now reverts to the rates in operation during 1932, plus a 10 per cent. increase, and it is expected that, while yielding more revenue for the railway company, this will not have an adverse affect on the trade owing to the greatly enhanced prices now prevailing. The company is examining the position in regard to other descriptions of traffic with a view to revision in an upward direction.

Support for Inventors.—The Institute of Patentees states that inventors will be given full support if they will apply by letter and state the nature of their work. War and other inventions which may be of use to the country will be submitted to the proper authorities and firms. Inventions will receive the attention of a competent technical committee.

Retired Railway Officers' Society.—It has now been decided to resume the monthly meetings and the social functions, with the exception of the Spring Luncheon, will be held when found possible. This decision was taken at a meeting held at the Great Eastern Hotel, Liverpool Street, on February 5. The President, Mr. J. Pike, was in the chair; the Report and Accounts for the past year were approved and several new members elected. The presentation of a bookcase, subscribed for by members, was made to the Hon. Treasurer, Mr. J. Procter Smith, on his resignation of the office which he has held for the past 11 years. He is succeeded by Mr. J. W. Lovejoy, one of the Hon. Auditors. The President, Mr. J. Pike, was elected for a further year; one of the Hon. Auditors, Mr. A. H. Bull, was re-elected; the place of the other, Mr. J. W. Lovejoy, was taken by Mr. J. Procter Smith. Mr. A. S. Mills, the Hon. Secretary, was also re-elected.

Irish Traffic Returns

IRELAND		Totals for 5th Week			Totals to Date		
		1940	1939	Inc. or Dec.	1940	1939	Inc. or Dec.
		£	£	£	£	£	£
Belfast & C.D. (80 miles)	pass.	2,011	1,738	+ 273	10,171	8,302	+ 1,869
	goods	467	480	— 13	2,445	1,846	+ 599
	total	2,478	2,218	+ 260	12,616	10,148	+ 2,468
Great Northern (543 miles)	pass.	9,050	7,700	+ 1,350	45,600	39,600	+ 6,000
	goods	11,950	9,800	+ 2,150	53,350	44,800	+ 8,550
	total	21,000	17,500	+ 3,500	98,950	84,400	+ 14,550
Great Southern (2,076 miles)	pass.	29,362	27,533	+ 1,829	143,877	139,190	+ 4,687
	goods	38,798	37,813	+ 985	206,201	199,557	+ 6,644
	total	68,160	65,346	+ 2,814	350,078	338,747	+ 11,331
L.M.S.R. (N.C.C.) (271 miles)	pass.	2,930	2,930		17,910	14,910	+ 3,000
	goods	3,020	2,780	+ 240	14,230	12,470	+ 1,760
	total	5,950	5,710	+ 240	32,140	27,380	+ 4,760

British and Irish Railway Stocks and Shares

Stocks	Highest 1939	Lowest 1939	Prices Feb. 13, 1940	Prices Rise/Fall
G.W.R.				
Cons. Ord. ..	38	21½	48	+6
5% Con. Prefce...	92	71	102½	+2
5% Red.Pref.(1950)	98	83	101	—
4% Deb.	103	91	105½	—1
4½% Deb... ..	105½	93¾	107½	+1
4½% Deb... ..	110	99	111	—
5% Deb.	121	109 15/16	123½	+1
2½% Deb... ..	63¼	54	64½	—
5% Rt. Charge ..	117	104	116	—
5% Cons. Guar. ..	111	96 13/16	115	—
L.M.S.R.				
Ord.	17	9¼	21	+5½
4% Prefce. (1923)	46¼	20	58½	+9
4% Prefce. ..	63½	37½	69½	+3
5% Red.Pref.(1955)	83	58¼	90	+4½
4% Deb.	98½	85	98½	—2
5% Red.Deb.(1952)	109	101¼	107	—
4% Guar. ..	87⅞	73	92½	—
L.N.E.R.				
5% Pref. Ord. ..	5¾	3⅛	8	+3
Def. Ord.	3½	1⅝	3⅞	+1½
4% First Prefce.	38½	19	56½	+10½
4% Second Prefce.	15	7⅝	20½	+4½
5% Red.Pref.(1955)	55	38	77½	+11½
4% First Guar. ..	78½	60	84½	+4
4% Second Guar.	68⅞	47	75½	+5
3% Deb.	71 15/16	57	71½	—1
4% Deb.	93	76	94½	—1
5% Red.Deb.(1947)	106 13/16	98	105⅛	+1
4½% Sinking Fund Red. Deb.	104½	96	102½	+2
SOUTHERN				
Pref. Ord. ..	78	46½	77	+6
Def. Ord.	19¼	7	19½	+5¼
5% Pref.	100	76	102½	+1
5% Red.Pref.(1964)	102 5/16	94	101½	+1
5% Guar. Prefce.	116½	103	115	+1
5% Red.Guar.Pref. (1957)	112¾	102 15/16	112½	—
4% Deb.	103	91¼	105½	—1
5% Deb.	118¼	109½	123½	+1
4% Red. Deb. 1962–67	106	98	105½	—
4% Red. Deb. 1970–80	102	96	105½	—
BELFAST & C.D.				
Ord.	6	3	4	—
FORTH BRIDGE				
4% Deb.	98 11/16	81	90½	—
4% Guar. ..	95	80	90½	—
G. NORTHERN (IRELAND)				
Ord.	6	2½	4¼	—
G. SOUTHERN (IRELAND)				
Ord.	13½	8	11⅛	—⅛
Prefce.	26	10	22	—2
Guar.	40½	22	34	—
Deb.	57	45⅝	53	+½
L.P.T.B.				
4½% "A" ..	115	103	114½	+1
5% "A" ..	123	106¾	119½	+1
4½% "T.F.A." ..	105	100 13/16	103	—
5% "B" ..	117½	102	115½	—
"C"	84	63⅞	65	—
MERSEY				
Ord.	24 17/32	17¼	21½	+1
4% Perp. Deb. ..	93⅝	88¾	91	+2
3% Perp. Deb. ..	77	65½	64½	—
3% Perp. Prefce.	55	49¼	52½	—

OFFICIAL NOTICES

Crown Agents for the Colonies

COLONIAL GOVERNMENT APPOINTMENTS.

APPLICATIONS from qualified candidates are invited for the following post :—

ASSISTANT LOCOMOTIVE RUNNING SUPERINTENDENT required by the Palestine Railway for two tours of 18 to 24 months' residential service with possible permanency. Salary £P420 a year, rising to £P550 a year, the initial salary within this scale being fixed according to qualifications and experience. In addition an expatriation allowance of £P50 a year and a temporary and variable cost of living allowance at present fixed at the rate of £P48 a year are also payable. (£P1 equals £1.) Free passages. Candidates preferably unmarried, age 22–45, must have served a pupilage or a full apprenticeship in the Locomotive Workshops of a British Railway, and must be Associate Members of the Institution of Civil or Mechanical Engineers, or hold an engineering degree or diploma exempting them from passing the qualifying examination for such membership.

Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/8834.

Great Western Railway Company

NOTICE IS HEREBY GIVEN that the ANNUAL GENERAL MEETING of the Proprietors of this Company will be held in London, at Paddington Station, on Wednesday, the 28th day of February, 1940, at Half-past eleven o'clock in the morning, for the general purposes of business.

HORNE OF SLAMANNAN,
Chairman.
F. R. E. DAVIS,
Secretary.

Paddington Station,
London, W.2.
12th February, 1940.

CONTRACTS AND TENDERS

L. & W. Whitehead Limited has received contracts from the L.P.T.B. for the construction of the stations required at Hainault and Leytonstone in connection with the north-easterly extension of the Central London tube. At both points the existing L.N.E.R. station buildings are to be demolished.

The following orders have been placed to the inspection of the Crown Agents for the Colonies :—

Palestine Railways :
Steel, Peech & Tozer : 34 loco. tyres.
Federated Malay States Railways :
Steel, Peech & Tozer : 50 railcar tyres ; 135 loco. tyres.

Taylor Bros. & Co. Ltd. has received an order from the Buenos Ayres & Pacific Railway for 10 locomotive axles.

The Blaenavon Co. Ltd. has received an order from the Egyptian State Railways for 60 tyres for diesel railcars.

The following orders have been placed to the inspection of Messrs. Robert White & Partners :—

South Indian Railway :
Jonas Woodhead & Sons Limited : 350 laminated springs.
Birmingham Battery & Metal Co. Ltd. : 25 tons of copper and brass rods.
J. Stone & Co. Ltd. : 45,000 wood sheet separators.
Morvi Railway :
A.B.C. Coupler & Engineering Co. Ltd. : A.B.C. couplers and buffers for 15 metre-gauge vehicles.

The Bengal-Nagpur Railway has placed the following orders :—

Beyer, Peacock & Co. Ltd. : Cylinders for X class locos. Locomotive spare parts.
Taylor Bros. & Co. Ltd. : 770 steel tyres.
Steel, Peech & Tozer : 785 steel tyres.
Churchill Machine Tool Co. Ltd. : Axle regrinding machine.
Miller & Co. Ltd., Edinburgh : 200 chilled cast-iron wheels.

The Egyptian State Railways have placed the following orders :—

W. G. Birkinshaw & Co. Ltd., Wolverhampton : Pickaxes and beaters.
Thomas de la Rue & Co. Ltd., London : Insulators.
Colvilles Limited : Mild steel rounds (£2,677).
Acton & Borman Limited, London : Abrasives (£254).
P. & W. MacLellan Limited, Glasgow : Mild steel rounds (£1,331).
H. J. Skelton & Co. Ltd. : Mild steel (£390).
Baldwins Limited : Mild steel (£124).
Grinding wheels (March 14 ; D.O.T., No. T. 16087/40).

The Mysore State Railway is enquiring for spare parts for locomotives, carriages, and wagons. Tenders are to be in at Bangalore by March 1.

The India Stores Department is enquiring for screw couplings. Tenders to be in at New Delhi by March 6. (Contract No. 999 ; D.O.T. No. T. 16077/40.)

The India Stores Department is enquiring or the following equipment :

Drawhook ends for broad-gauge stock (No. X-975 ; February 21).
Vacuum brake fittings (No. M-5470 ; February 26).
200 kVA 11,000/400 volts transformer (No. E-5285 ; February 27).
Lathes, sawing machines, forging mahine, gas or oil heated furnace, etc. (No. W-225 ; March 14).
Armoured hose for N.W.R. and E.B.R. (No. X-3,6105 ; February 29).

The China Purchasing Agency Limited has placed the following orders to the inspection of Messrs. Fox and Mayo :—

H. W. Ward & Co. Ltd. : 10 lathes.
James Archdale & Co. Ltd. : Drilling and milling machines.
Churchill Machine Tool Co. Ltd. : 8 grinding machines.
J. Parkinson & Son, Shipley : 7 milling and shaping machines.
British Insulated Cables Limited : 280 tons of black rolled copper rods.

The Egyptian State Railways are enquiring for :—

2,000 ft. of 2½-in. and 1,800 ft. of 6 in. galvanised mild steel tubes (E.S.R. 17.296).
8,880 steel boiler and superheater flue tubes (E.S.R. 317.G.3/14).
2,000 automatic telephones (Feb. 29 ; E.S.R. 338.G.3/1).
Axles and springs (E.S.R. 21.1157).

South African Railways. The last date for tenders (No. 2513) for wheels and axles has been extended to March 11.

The South African Railways are calling for tenders for the following material :—

Three 20-ton overhead travelling cranes (March 11 ; D.O.T. No. T. 15508/40).
One 2-ton, two 5-ton, and two 10-ton overhead travelling cranes (April 1 ; D.O.T. No. T. 15897/40).
Wheels and axles (April 1 ; D.O.T. No. 16634/40).

The Tata Iron & Steel Co. Ltd. is examining a scheme for the manufacture in India of wheels, tyres, and axles, and also steam locomotives.

The New Zealand Public Works Department is calling for tenders by March 5 for one 7½-ton travelling crane and one 5-ton overhead travelling cranes. (D.O.T. Nos. T. 15642/40 and T. 15770/40.)

On January 1 the class 1 railroads in the U.S.A. had 37,099 new freight cars on order, the largest total for the beginning of any year since 1926, according to the Association of American Railroads. On the same date the locomotives on order totalled 117, comprising 51 steam and 66 electric and diesel-electric. At January 1, 1939, the comparable figures were 5,080 freight cars and 71 locomotives.

Forthcoming Events

Feb. 16 (*Fri.*).—Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, 2.30 p.m. Presidential address by Mr. E. Bruce Ball.

Feb. 20 (*Tues.*).—Institution of Civil Engineers, Great George Street, London, S.W.1, 5.30 p.m. "The dragline excavator," by Mr. W. Barnes.

Institution of Engineers and Shipbuilders in Scotland, 39, Elmbank Crescent, Glasgow, C.2, 6.30 p.m. "Welding as a substitute for casting," by Dr. S. Dorey.

Feb. 22 (*Thurs.*).—Institution of Electrical Engineers (London), Savoy Place, W.C.2, 6 p.m. "Insulation stresses in transformers, with special reference to surges and electrostatic shielding," by Mr. H. Thomas.

Feb. 28 (*Wed.*).—Institution of Locomotive Engineers, at Savoy Hotel, Strand, London, W.C.2, 6.30 for 7 p.m. Annual dinner.

Forthcoming Meetings

Feb. 16 (*Fri.*)—**Weymouth & Portland Railway Company** (Ordinary half-yearly general), Regis House, King William Street, E.C.4, at 2.30 p.m.

Feb. 20 (*Tues.*)—**Oldham, Ashton-under-Lyne & Guide Bridge Junction Railway Company.** (Ordinary annual) Marylebone station, London, at 11 a.m.

Feb. 22 (*Thurs.*)—**The Dundalk, Newry & Greenore Railway Company** (Ordinary general), Euston station, London, N.W., at 10.40 a.m.

Feb. 27 (*Tues.*)—**Whitechapel & Bow Railway Company** (Ordinary general), 55, Broadway, Westminster, S.W.1, at 2.45 p.m.

Feb. 28 (*Wed.*)—**Great Western Railway Company** (Annual general), Paddington station, at 11.30 a.m.

Feb. 29 (*Thurs.*)—**Forth Bridge Railway Company** (Statutory general), Marylebone station, at 10 a.m.

Mar. 1 (*Fri.*)—**Great Southern Railways Company** (Eire), (Ordinary general), Gresham Hotel, Dublin, at 2 p.m.

XUM

Railway Share Market

Under the influence of details of the compensation scheme and hopeful market estimates in respect of the impending dividends for 1939, home railway securities provided the most active section of the Stock Exchange. Substantial gains have been established by junior preference and ordinary stocks, and although a good deal of profit-taking was subsequently in evidence, the prevailing view is that current levels appear to be fully justified by the terms of the financial arrangements for the war period. In the circumstances considerable speculative attention may continue to be given to the junior securities. On the other hand, debenture stocks were somewhat easier than a week ago, in sympathy with the tendency in gilt-edged securities, although yields at current prices compare very favourably with those on other first-class investments.

Considerable attention has been given to L.N.E.R. preference stocks, which are regarded in many quarters as relatively undervalued, while the guaranteed stocks also attracted buyers in view of the apparently generous yields. As compared with a week ago, the first preference has advanced from 46 to 57, while the second preference moved up from 16 to 20½. The first guaranteed at 84 showed a gain of two points, while in the case of the second guaranteed, there was an advance from 71 to 75½. L.N.E.R. preferred ordinary appreciated to 7⅜, and the deferred ordinary was better at 3⅞. The prevailing market view is that there are reasonable prospects of a moderate distribution on the preferred ordinary in respect of the current year; no payment is, of course, expected for 1939. L.N.E.R. 4 per cent. debentures were slightly lower at 95, as were the 3 per cent. debentures at 71½. In front of the dividend announcement, Great Western ordinary was active, and on balance for the week the price has advanced from 41½ to 48¾. Whereas the guaranteed stock was fractionally lower at 115½, the preference stock rallied two points to 103; the 4 per cent. debentures were little changed on balance. L.M.S.R. ordinary participated in the buoyant trend in junior securities, and as compared with a week ago shows a rise of fully six points, the current price being 21¾. Active demand was in evidence for the 1923 preference, which, as a result, has now reached 58½, a gain of nine points on balance; the senior preference stock at 69 shows a rise of two points, and the guaranteed stock was unchanged at 92½. As to L.M.S.R. debentures, the 4 per cents. were slightly lower at 99, and the 5 per cents. remained around 107. The 5 per cent. redeemable preference reflected the general tendency, having appreciated to 90. Southern preferred ordinary was active around 77, the deferred moved up to 19½, and the preference changed hands up to 104. Moreover, the guaranteed stock was quoted at 115½, and a steady tendency was maintained in the 4 per cent. debentures. London Transport "C" remained pegged at the official minimum price of 65, but on balance further gains were recorded in the "A" and "B" stocks, although best prices touched were not fully held.

In other directions foreign railway stocks have attracted only moderate attention. B.A. & Pacific 4½ per cent. consolidated debentures were firm at 36½ xd. on the latest interest arrears payment, while the 4 per cent. debentures were better at 66½. On the whole, movements in securities of leading Argentine railway companies were small and unimportant. Argentine Great Western 5 per cent. debentures improved to 39, and Central Argentine ordinary was firmer at 7¼. Elsewhere, Canadian Pacific shares were lower, while following the news that no payment is to be made on the preference stock, the latter was marked down eight points to 35.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

	Railways	Miles open 1939–40	Week Ending	Traffic for Week: Total this year	Traffic for Week: Inc. or Dec. compared with 1939	No. of Weeks	Aggregate Traffics to Date: Totals: This Year	Aggregate Traffics to Date: Totals: Last Year	Aggregate Traffics to Date: Increase or Decrease	Shares or Stock	Prices: Highest 1939	Prices: Lowest 1939	Prices: Feb. 13, 1940	Yield % (see Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	4.2.40	20,530	+ 6,840	5	94,450	62,840	+ 31,610	Ord. Stk.	103⅜	41½	101½	Nil
	Argentine North Eastern	753	3.2.40	ps. 113,400	– ps11,500	32	ps. 4,887,400	ps 5,052,700	– ps. 165,300	„	4½	2	2½	Nil
	Bolivar	174	Jan. 1940	3,700	+ 300	4	3,700	3,400	+ 300	6 p.c. Deb.	7½	5¾	7	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds.	5¾	4¼	6	8⅝
	Buenos Ayres & Pacific	2,801	3.2.40	ps1,725,000	– ps 56,000	32	ps39,543,000	ps40,485,000	– ps 942,000	Ord. Stk.	5½	2	3½	Nil
	Buenos Aires Central	190	30.12.39	$86,700	– $22,200	27	$2,832,700	$3,047,900	– $215,200	Mt. Deb.	14	8	12½	Nil
	Buenos Ayres Gt. Southern	5,082	3.2.40	ps3,606,000	+ ps226,000	32	ps69,009,000	ps69.170,000	– ps 161,000	Ord. Stk.	13⅝	4¼	8	Nil
	Buenos Ayres Western	1,930	3.2.40	ps. 946,000	+ ps88,000	32	ps23,724,000	ps21,715,000	+ ps2,009,000	„	10½	4	6½	Nil
	Central Argentine	3,700	3.2.40	ps1,603,000	– ps893,100	32	ps55,853,100	ps57,032,450	– ps 1,179,350	„	11¼	4	7	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4	1½	3	Nil
	Cent. Uruguay of M. Video	972	3.2.40	28,047	+ 7,801	32	620,883	576,847	+ 44,036	Ord. Stk.	2¼	7/16	2¼	Nil
	Costa Rica	188	Nov. 1939	16,055	– 1,709	21	88,364	112,640	– 24,276	Stk.	24½	18	22	9⅛
	Dorada	70	Jan. 1940	12,200	– 1,100	4	12,200	13,300	– 1,100	1 Mt. Db.	104½	102	102½	5⅞
	Entre Rios	810	3.2.40	ps. 214,200	– ps29,800	32	ps. 7,746,700	ps8,107,400	– ps.360,700	Ord. Stk.	6	3	4	Nil
	Great Western of Brazil	1,016	3.2.40	13,700	+ 1,700	5	66,000	60,700	+ 5,300	Ord. Sh.	3	1/2½	1⅛	Nil
	International of Cl. Amer.	794	Dec. 1939	$545,566	– $12,458	52	$5,994,055	$5,639,240	+ $354,815	—	—	—	—	—
	Interoceanic of Mexico	—	—	—	—	—	—	—	—	1st Pref.	7½d.	7½d.	1⅛	Nil
	La Guaira & Caracas	22¾	Jan. 1940	7,610	+ 2,860	4	7,610	4,750	+ 2,860	Stk.	7	6½	6½	Nil
	Leopoldina	1,918	3.2.40	26,412	+ 6,399	5	115,703	107,835	+ 7,868	Ord. Stk	2½	1⅛	2	Nil
	Mexican	483	7.1.40	$243,200	– $10,400	1	$243,200	$253,600	– $10,400	„	1⅝	1⅛	1⅛	Nil
	Midland of Uruguay	319	Dec. 1939	10,240	– 408	26	54,960	54,555	+ 405	„	2/–	1⅛	1⅛	Nil
	Nitrate	386	31.1.40	8,744	+ 3,690	4	18,669	8,873	+ 9,796	Ord. Sh.	2⅛	1½	2⅛	8⅞
	Paraguay Central	274	3.2.40	$3,154,000	+ $401,000	32	$100,212,000	$97,254,000	+ $2,958,000	Pr. Li. Stk.	45½	36	38	15¹⁵/₁₆
	Peruvian Corporation	1,059	Jan. 1940	81,055	+ 12,742	31	464 990	477,766	– 12,776	Pref.	1⅝	5/16	3	Nil
	Salvador	100	6.1.40	¢27,169	– ¢3,581	27	¢352,888	¢431,964	– ¢79,076	Pr. Li. Db.	19½	16	15	Nil
	San Paulo	153½	28.1.40	34,580	+ 9,231	4	120,539	111,686	+ 8,853	Ord. Stk.	38	20	34½	8¹⁵/₁₆
	Taltal	160	Dec. 1939	3,600	+ 200	26	14,140	16,915	– 2,775	Ord. Sh.	5⅛	6/6	11/16	7¼
	United of Havana	1,353	3.2.40	24,438	– 7,428	32	536,887	533,618	+ 3,269	Ord. Stk.	2	1¼	1	Nil
	Uruguay Northern	73	Dec. 1939	1,432	+ 185	26	6,222	6,478	– 256	Deb. Stk.	2	2	2	Nil
Canada	Canadian National	23,691	7.2.40	873,858	+ 241,119	5	4,394,205	3,331,740	+ 1,062,465	—	—	—	—	—
	Canadian Northern	—	—	—	—	—	—	—	– 4 p.c.	Perp. Dbs.	74¾	60	77	5⅜16
	Grand Trunk	—	—	—	—	—	—	—	—	4 p.c. Gar.	100½	76	101	3¹⁵/₁₆
	Canadian Pacific	17,169	7.2.40	625,400	+ 168,600	5	3,074,200	2,396,600	+ 677,600	Ord. Stk.	7⅜	3½	7	Nil
India †	Assam Bengal	1,329	31.12.39	47,205	– 1,741	39	1,169,044	1,123,279	+ 45,765	Ord. Stk.	76½	60	74½	4
	Barsi Light	202	20.1.40	2,805	– 307	43	104,017	113.850	– 9,833	Ord. Sh.	56½	50½	45	8⅞
	Bengal & North Western	2,096	20.1.40	81,304	– 6,079	16	817.226	874.054	– 56,828	Ord. Stk.	277	229½	258	6⅝16
	Bengal Dooars & Extension	161	20.1.40	3,674	– 504	43	117,372	123,710	– 6,338	„	91	84½	200	3¼
	Bengal-Nagpur	3,267	20.1.40	232,950	+ 23,495	43	6,315,416	5,590,845	+ 724,571	„	94¾	83½	89½	4⅞16
	Bombay, Baroda & Cl. India	2,986	31.1.40	288,525	– 9,450	45	7,444.950	7,332,450	+ 112.500	„	108	90	102½	5⅞
	Madras & Southern Mahratta	2,967	10.1.40	164,625	+ 2,209	41	4,447,909	4,319,386	+ 128,523	„	104 11/16	92	102½	7⅝16
	Rohilkund & Kumaon	571	20.1.40	18,079	+ 665	16	170.193	161.519	+ 8,674	„	280	263	253	6⅝16
	South Indian	2,531½	20.1.40	98,155	– 5,145	43	3,281,074	3,307,142	– 26,068	„	102½	88	91½	5⅞16
Various	Beira	204	Nov. 1939	82,028	—	8	154,004	—	—	—	—	—	—	—
	Egyptian Delta	623	31.12.39	7,986	+ 171	39	163,694	162,995	+ 699	Prf. Sh.	1⅛	1¼	¾	Nil
	Kenya & Uganda	1,625	May 1939	206.557	– 11,295	21	1,220,870	1,309.332	– 88,462	—	—	—	—	—
	Manila	—	—	—	—	—	—	—	—	B. Deb.	55	39	45½	7¹¹/₁₆
	Midland of W. Australia	277	Nov. 1939	11,689	– 2.335	21	63.495	75,880	– 12.385	Inc. Deb.	91½	87½	88	4⅝16
	Nigerian	1,900	16.12.39	37,660	– 43,756	38	1,231,947	1,349,104	– 117,157	—	—	—	—	—
	Rhodesia	2,442¾	Nov. 1939	374.770	—	8	762,924	—	—	—	—	—	—	—
	South Africa	3,284	20.1.40	674,290	+ 37.630	46	27.441.352	26,278,857	+ 1,162,495	—	—	—	—	—
	Victoria	4,774	Oct., 1939	871.621	+ 43,492	17	3,049,244	3,064,925	– 15,681	—	—	—	—	—

NOTE. Yields are based on the approximate current prices and are within a fraction of 1/16

Argentine traffics are now given in pesos. † Receipts are calculated @ 1s. 6d. to the rupee. § ex dividend

XUM